ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM

James H. Watt

RPI-123US

	Day	Local Time				Person Posting Message	Message Number	Message Content
		Person A–NY	Person B–LA	Person C–London	Person D–Tokyo			
12	1	9:00:00 AM	6:00:00 AM	2:00:00 PM	11:00:00 PM	A	1	Suggestion for color
14	1	9:10:00 AM	6:10:00 AM	2:10:00 PM	11:10:00 AM	D	2	Responds with alternative suggestion
16	1	1:00:00 PM	10:00:00 AM	6:00:00 PM	3:00:00 PM	B	3	Replies to both Message 1 and 2 and asks Person C's opinion
18	2	6:00:00 AM	3:00:00 AM	11:00:00 AM	8:00:00 AM	C	4	Replies to Message 3 with opinion
20	2	6:30:00 AM	3:30:00 AM	11:30:00 AM	8:30:00 AM	D	5	Raises new problem with dimensions
22	2	7:15:00 AM	4:15:00 AM	12:15:00 PM	9:15:00 AM	C	6	Suggets two possible solutions to Message 5 problem
24	2	9:20:00 AM	6:20:00 AM	2:20:00 PM	11:20:00 AM	A	7	Replies to Message 4 with another color option
26	2	9:25:00 AM	6:25:00 AM	2:25:00 PM	11:25:00 AM	A	8	Replies to Message 6 with cost of dimensional change
28	3	2:00:00 PM	11:00:00 AM	7:00:00 PM	4:00:00 PM	C	9	Has been traveling and prepared response to Message 7 on plane. Logs on now and posts it.
30	3	3:00:00 PM	12:00:00 PM	8:00:00 PM	5:00:00 PM	A	10	Responds to Message 8

10 12 14 16 18 20 22 24 26 28 30 — 32 34 36 38 40 42 44 46

FIG. 1

50 Actual Message Sequence	52 TIC Playback Sequence
1	1
2	2
3	3
4	4
5	7
6	9
7	5
8	6
9	8
10	10

FIG. 2

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM

James H. Watt

RPI-123US

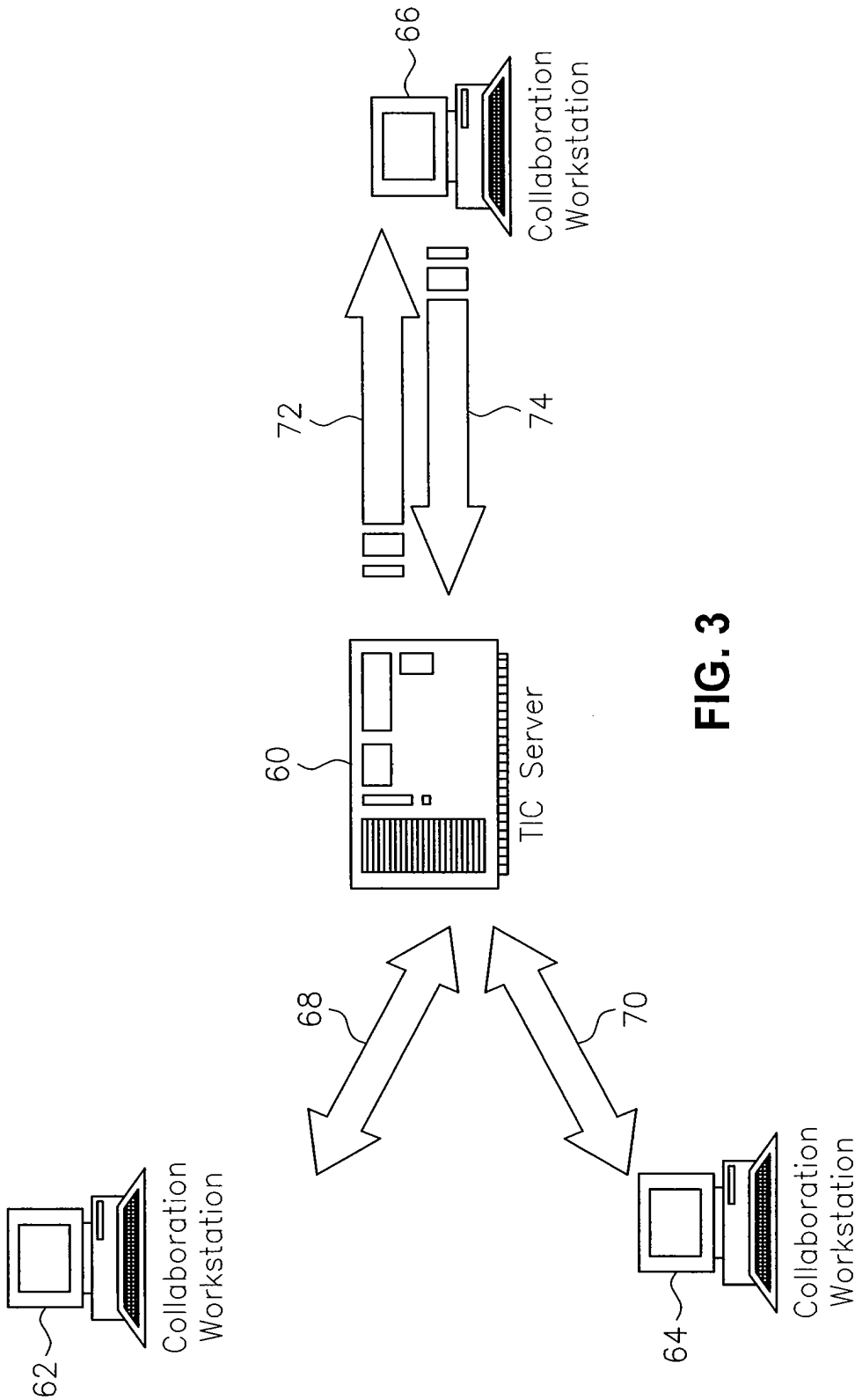

FIG. 3

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM

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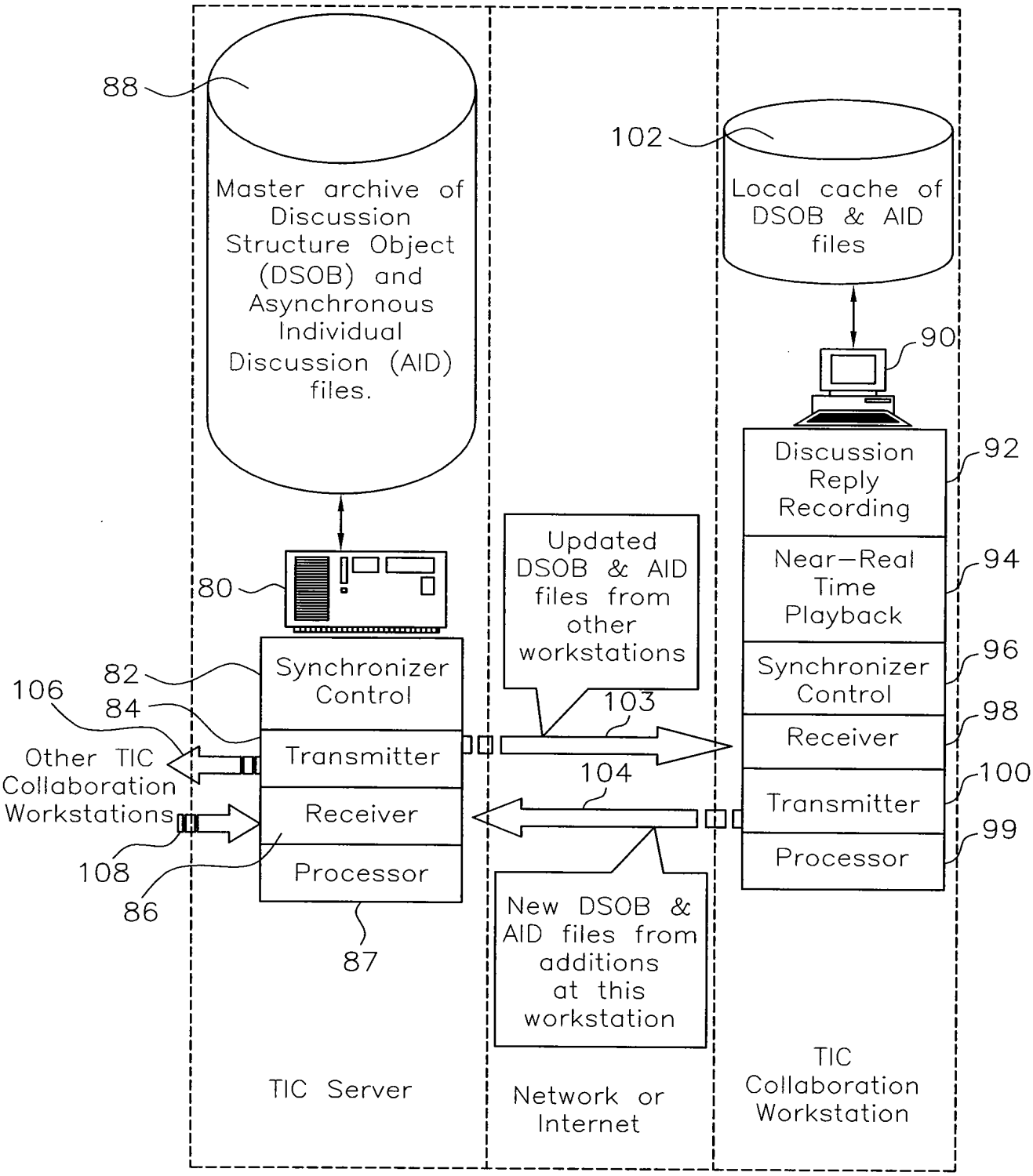

FIG. 4

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM

James H. Watt

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	Field	Contents
110	AIDFileName	Unique AID file name containing userID and time/date information
112	Description	Text field entered by discussion participant when creating the comment contained in the AID file named above. This field is used by the TIC Workstation software to search for specific topics to play back.
114	LastPlaybackDate	This field records the date/time that the discussion participant last played the AID file. It is used to identify new, unviewed content.
116	Authorization	A security and access code field that defines the rights of the discussion participant to manipulate the AID file named (e.g. to delete or archive the file).
118	ParentItem	This field contains the ID of the logical parent of this entry. This field can be used to organize the discussion in a differing logical order, e.g. by topic or participant.
120	ChildItem	This field contains the ID of the logical parent of this entry. This field can be used to organize the discussion in a differing logical order, e.g. by topic or participant.
122	LeftSiblingItem	This field contains the ID of the logical sibling preceding this entry. If the discussion is organized in pseudo-chronological form, this is the DSOB item immediately preceding this item in the chronology.
124	RightSiblingItem	This field contains the ID of the logical sibling following this entry. If the discussion is organized in pseudo-chronological form, this is the DSOB item immediately following this item in the chronology.
126	Status	This is an internal field used by the TIC Server to identify the state of this item, e.g. archived or active.

FIG. 5

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM
James H. Watt
RPI-123US

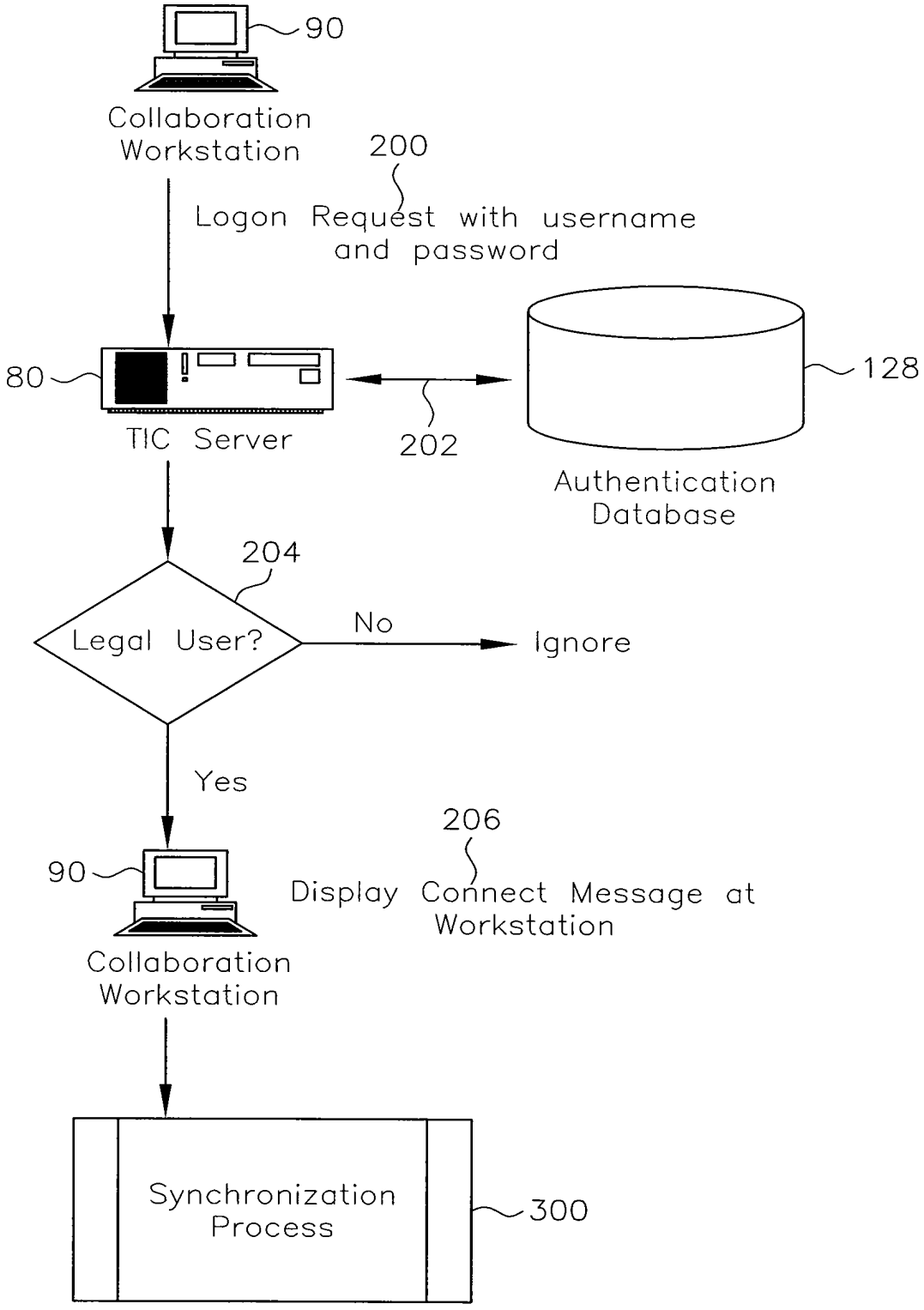

FIG. 6

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM
James H. Watt
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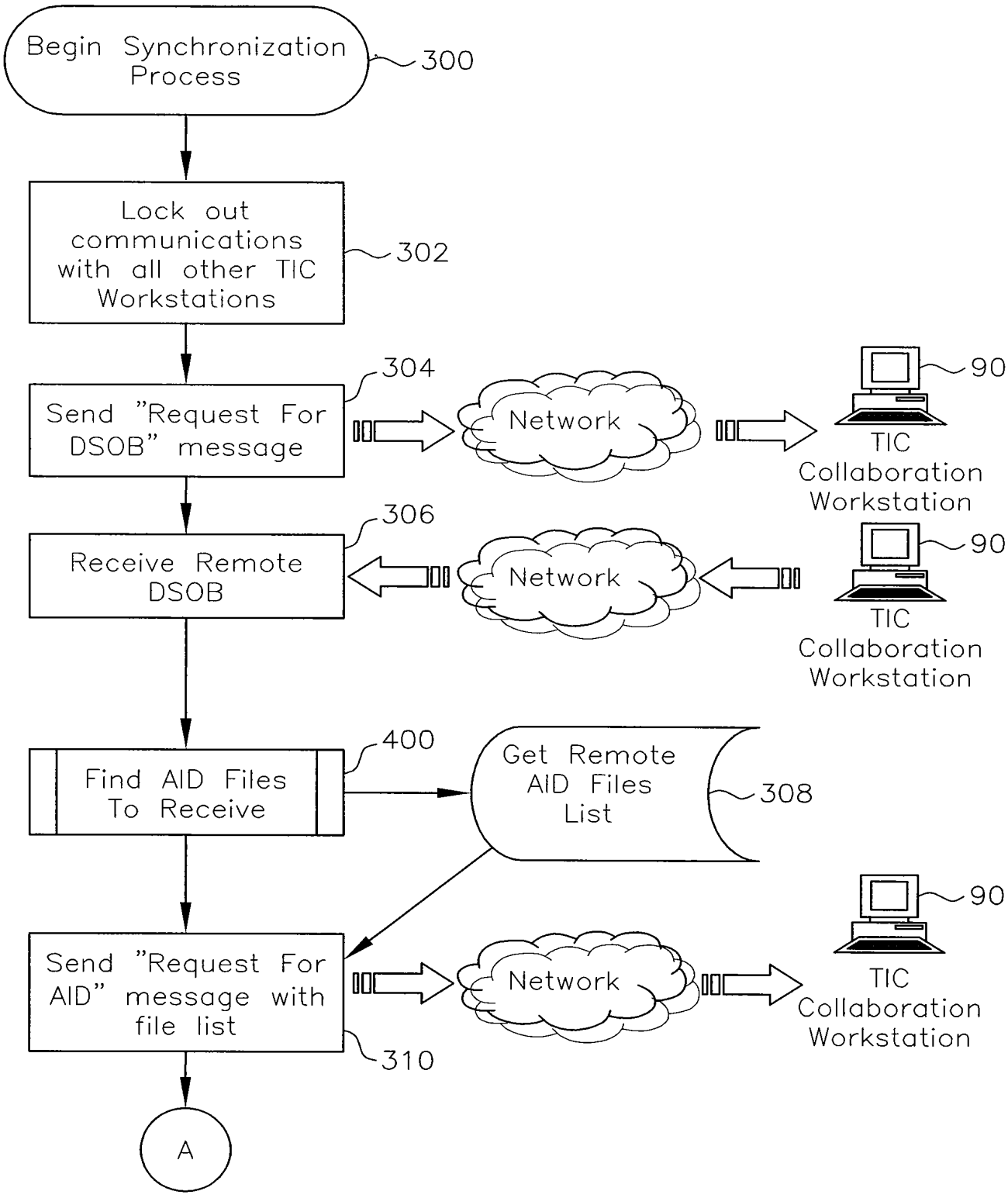

FIG. 7A

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM
James H. Watt
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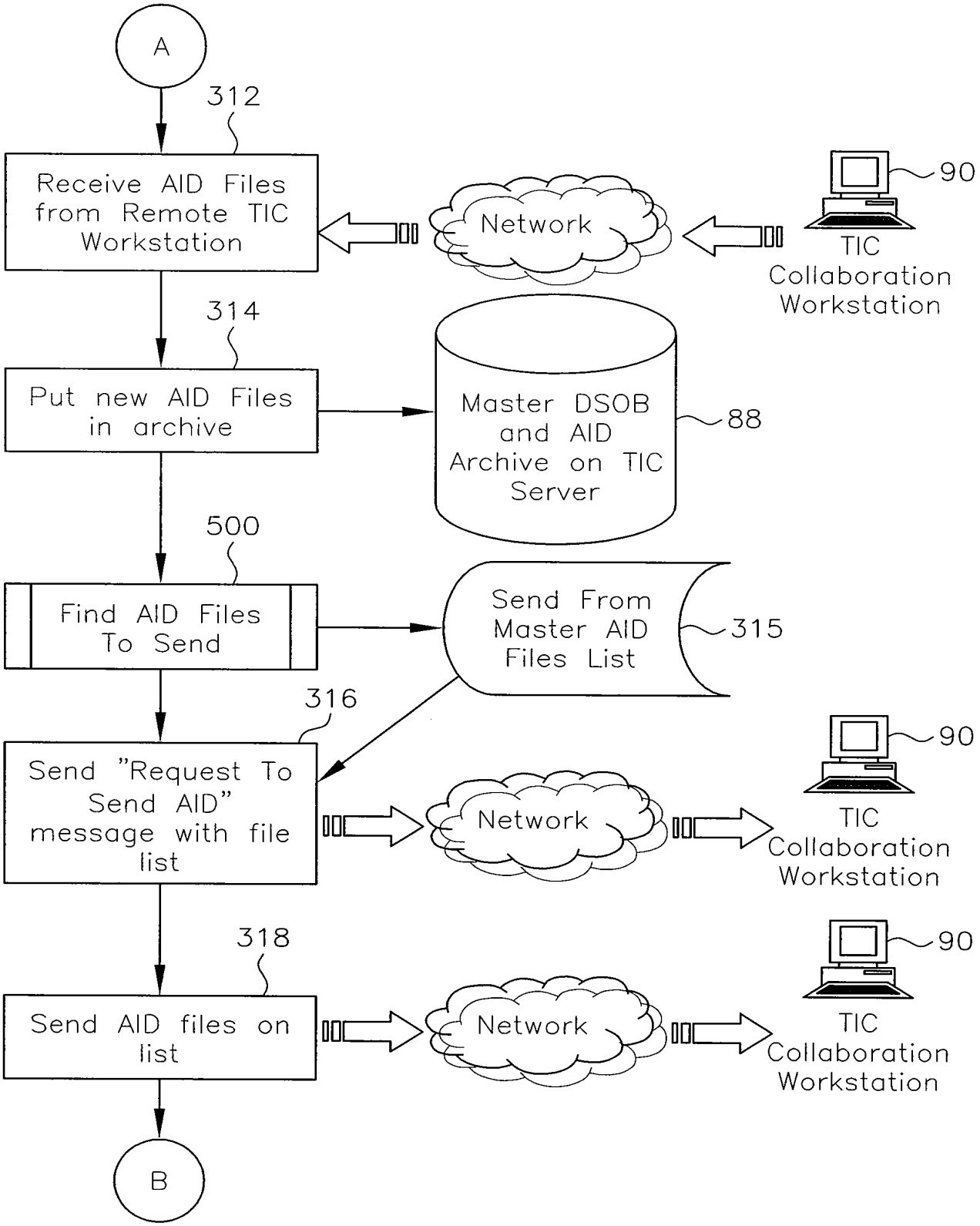

FIG. 7B

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM
James H. Watt
RPI-123US

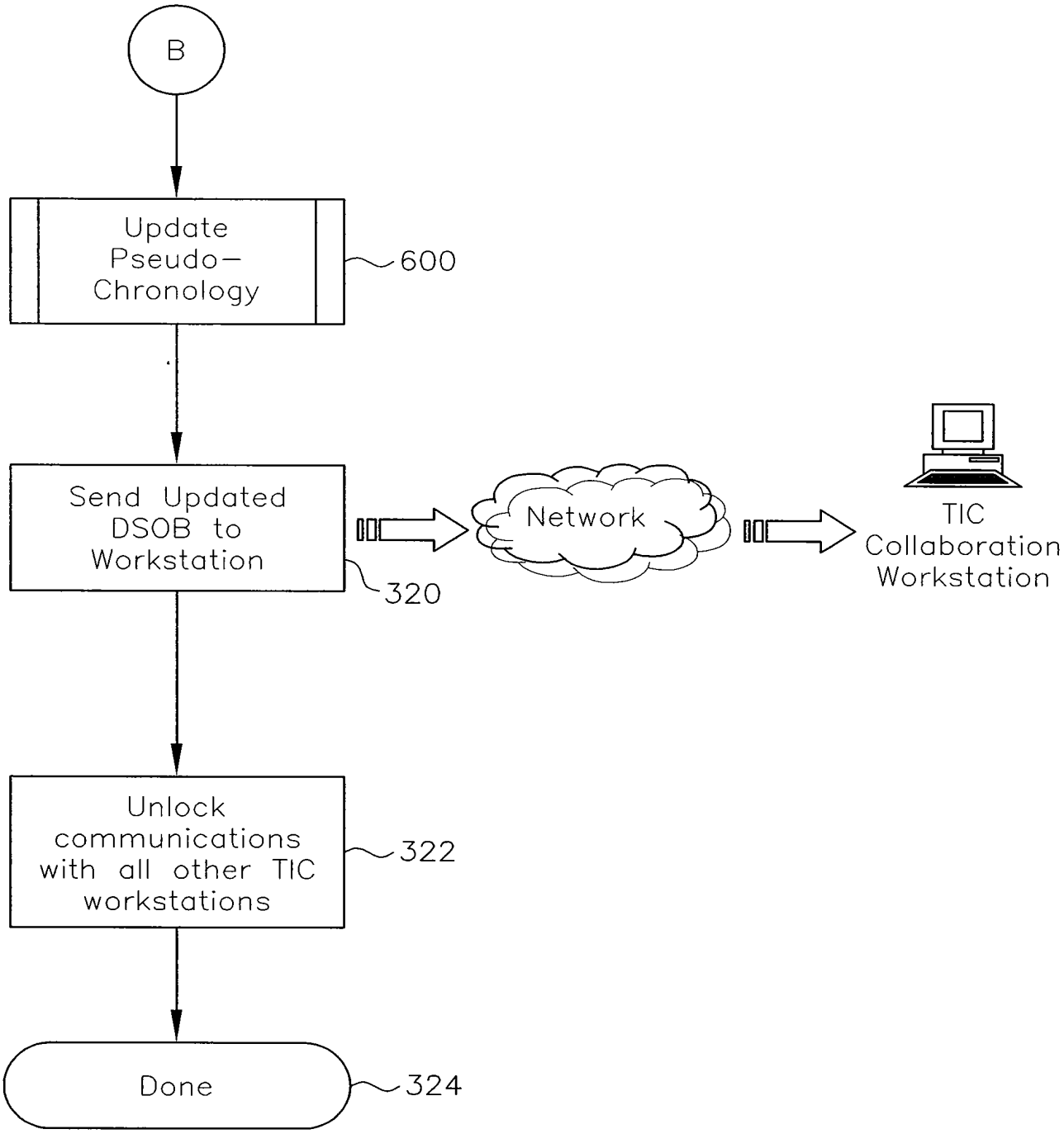

FIG. 7C

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM
James H. Watt
RPI-123US

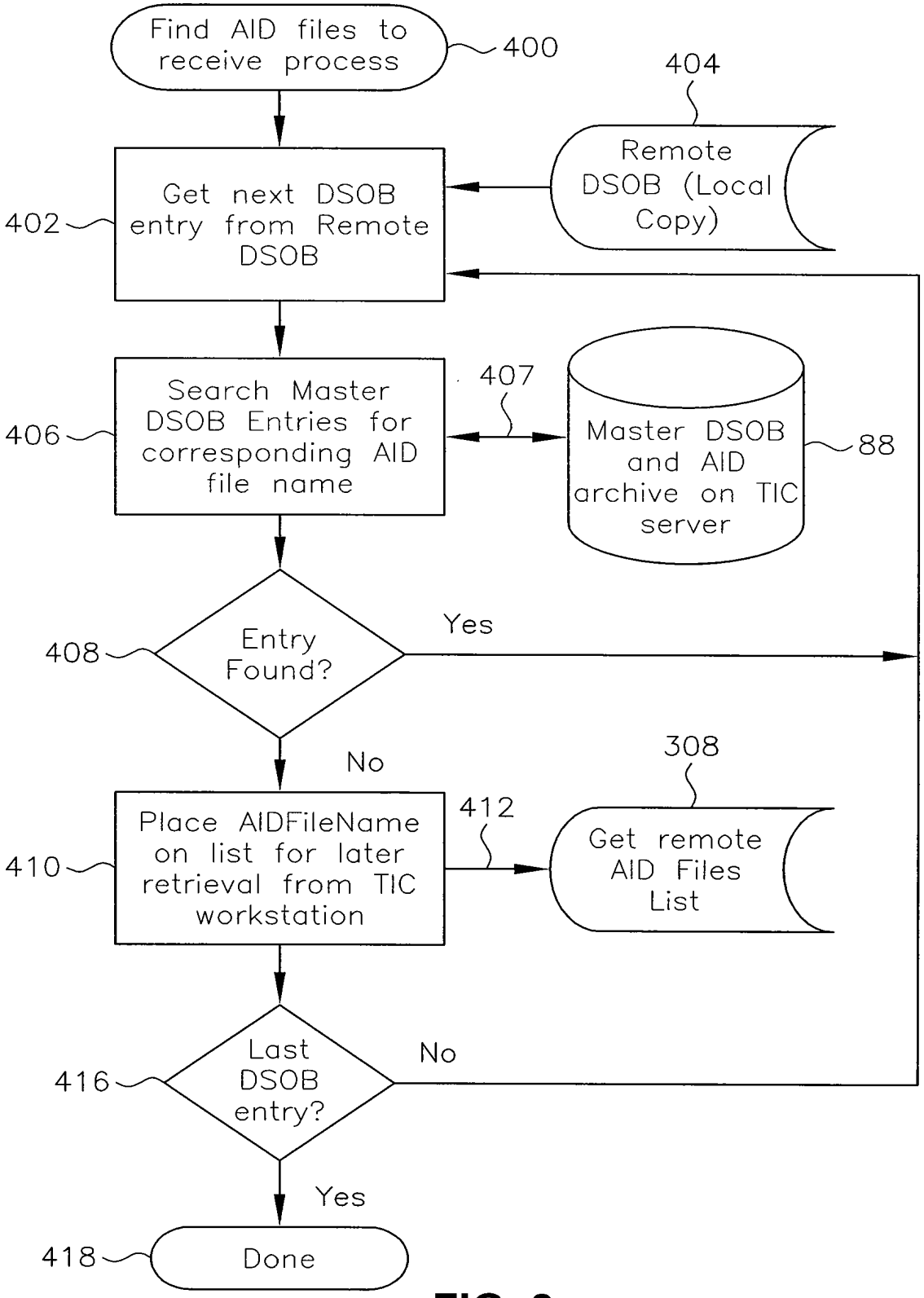

FIG. 8

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM

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RPI-123US

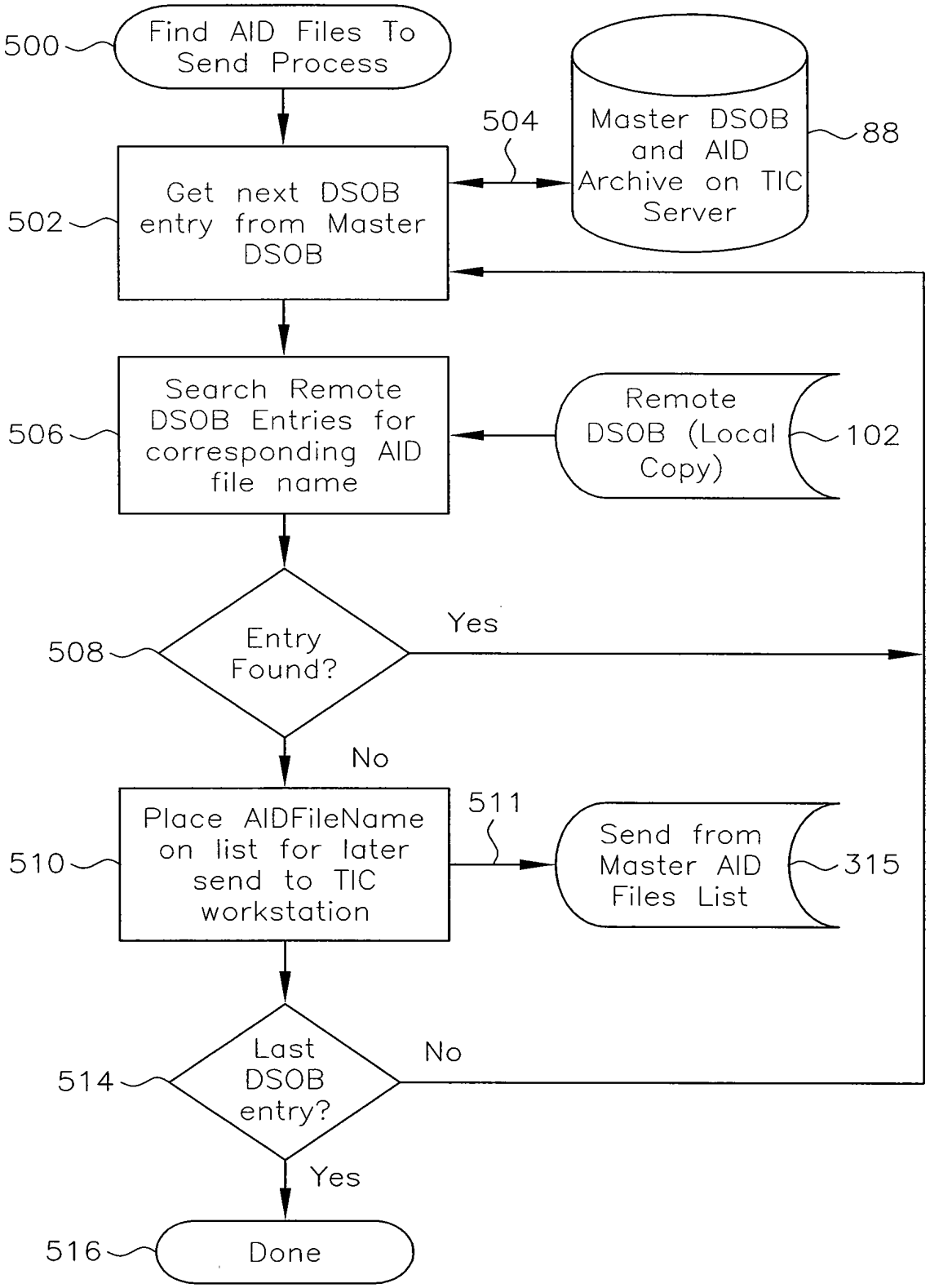


FIG. 9

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM

James H. Watt

RPI-123US

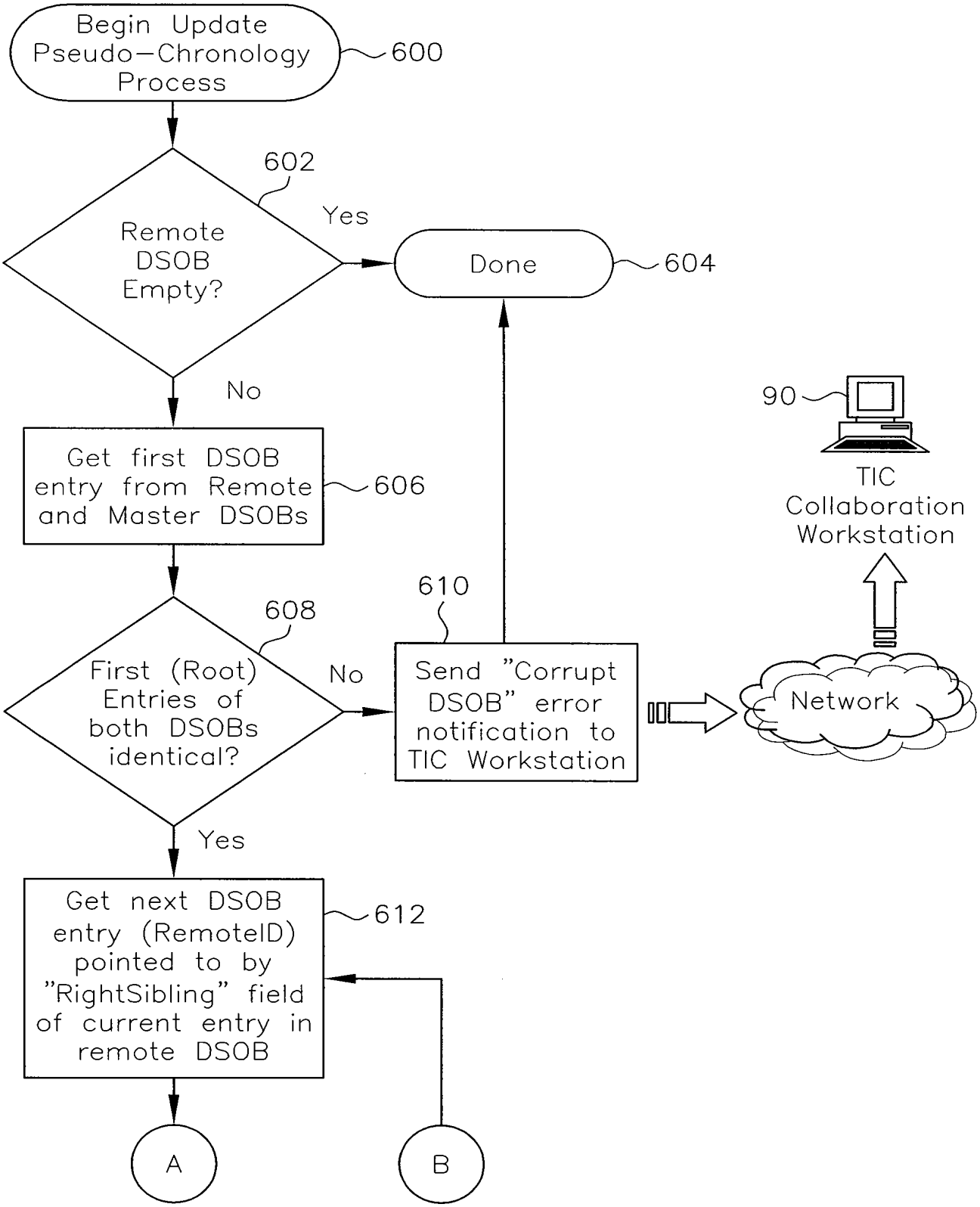


FIG. 10A

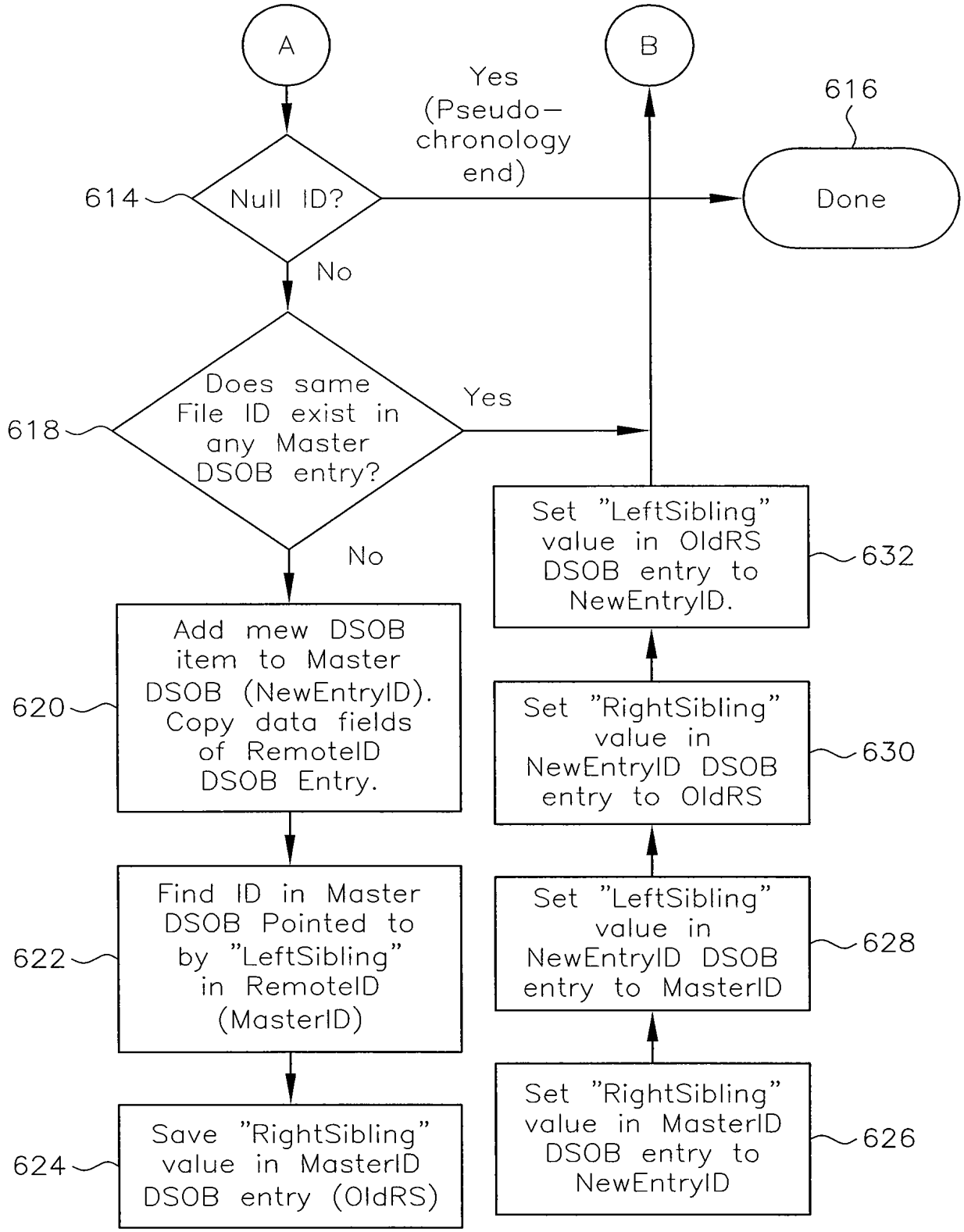

A
B
Yes
(Pseudo–
chronology
end)
616
614
Null ID?
Done
No
Does same
File ID exist in
any Master
DSOB entry?
618
Yes
No
Set "LeftSibling"
value in OldRS
DSOB entry to
NewEntryID.
632
Add mew DSOB
item to Master
DSOB (NewEntryID).
Copy data fields
of RemoteID
DSOB Entry.
620
Set "RightSibling"
value in
NewEntryID DSOB
entry to OldRS
630
Find ID in Master
DSOB Pointed to
by "LeftSibling"
in RemoteID
(MasterID)
622
Set "LeftSibling"
value in
NewEntryID DSOB
entry to MasterID
628
Save "RightSibling"
value in MasterID
DSOB entry (OldRS)
624
Set "RightSibling"
value in MasterID
DSOB entry to
NewEntryID
626

FIG. 10B

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM

James H. Watt

RPI-123US

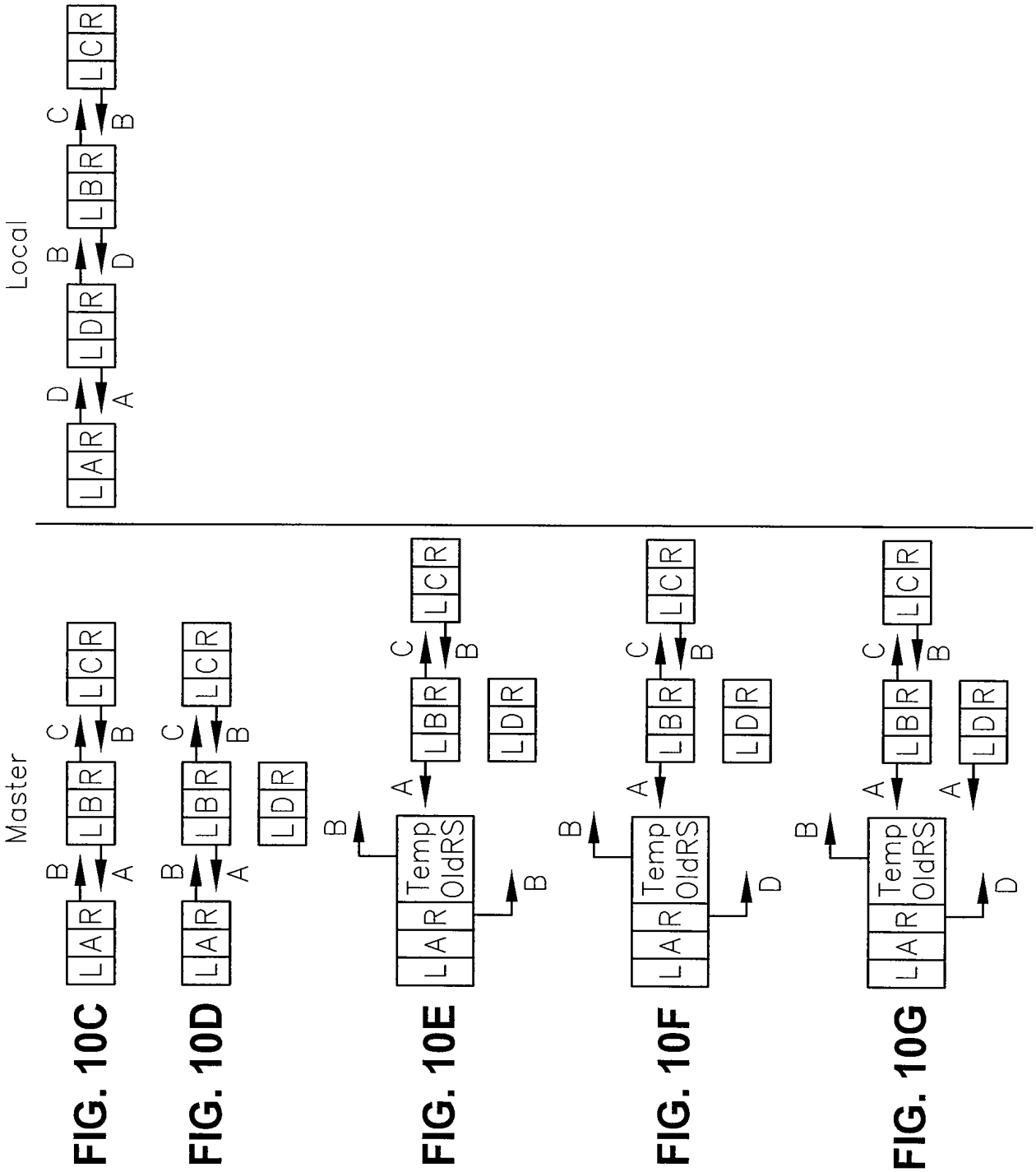


FIG. 10C

FIG. 10D

FIG. 10E

FIG. 10F

FIG. 10G

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM

James H. Watt

RPI-123US

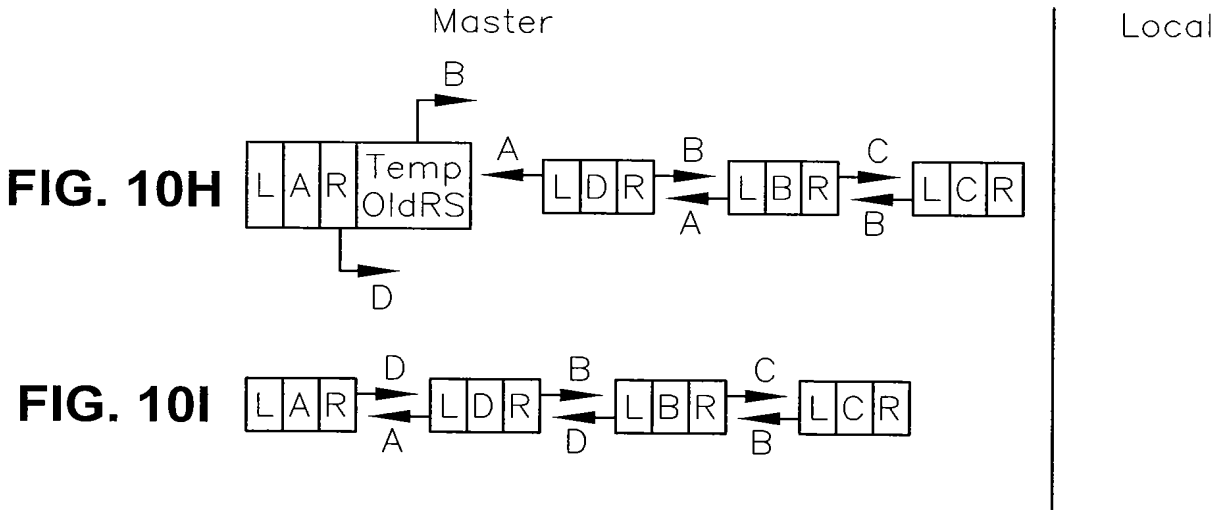


FIG. 10H

FIG. 10I

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM

James H. Watt

RPI-123US

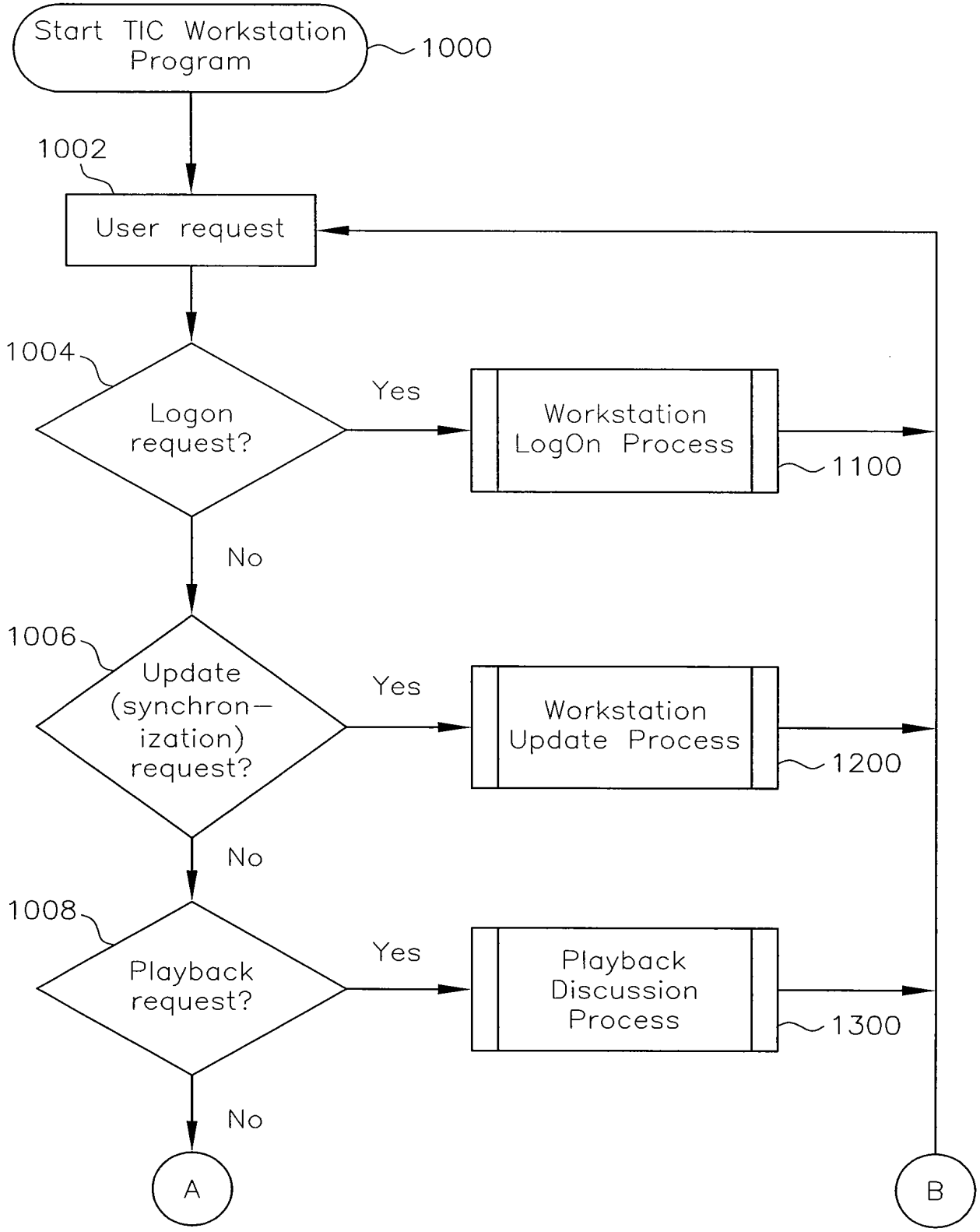


FIG. 11A

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM
James H. Watt
RPI-123US

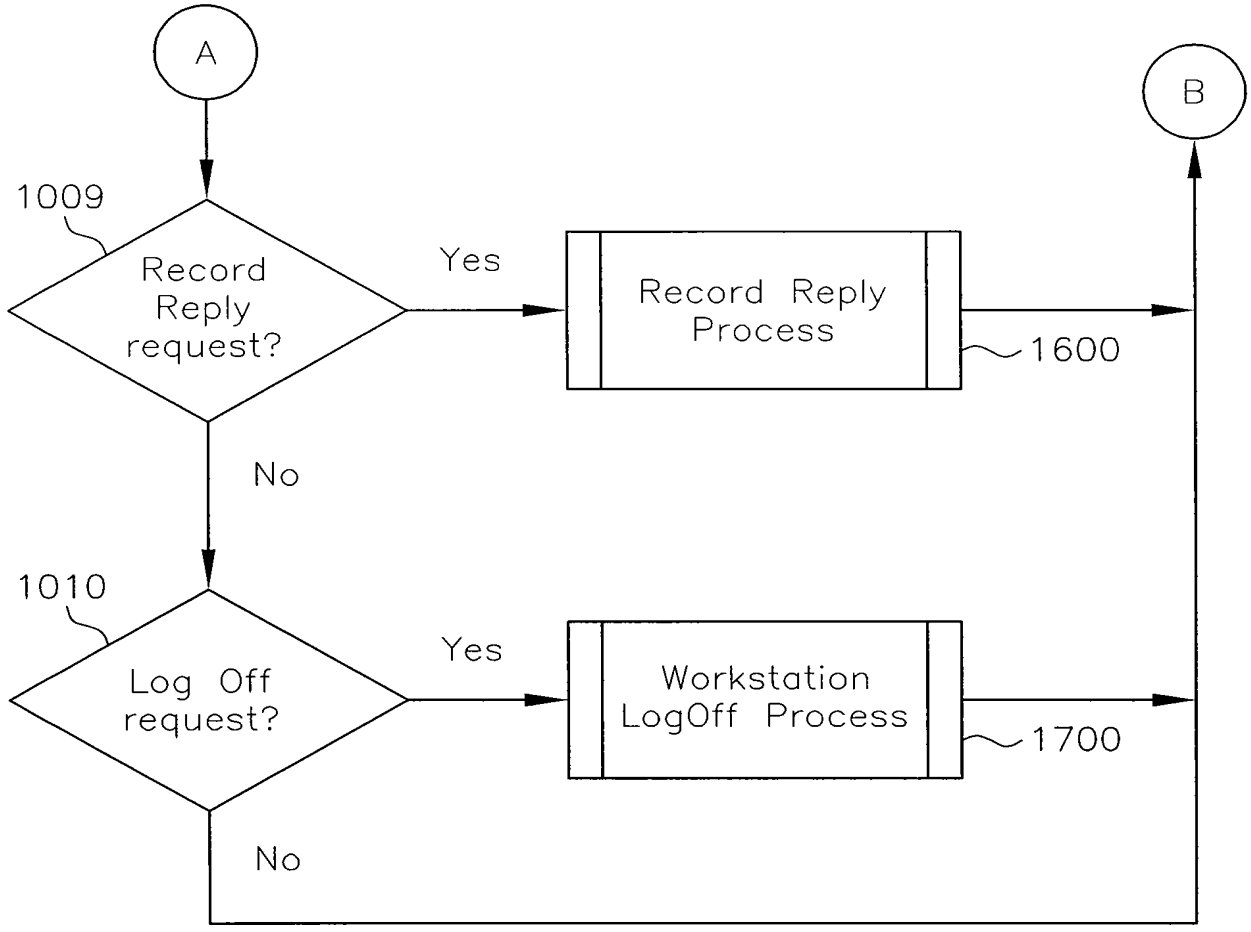


FIG. 11B

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM
James H. Watt
RPI-123US

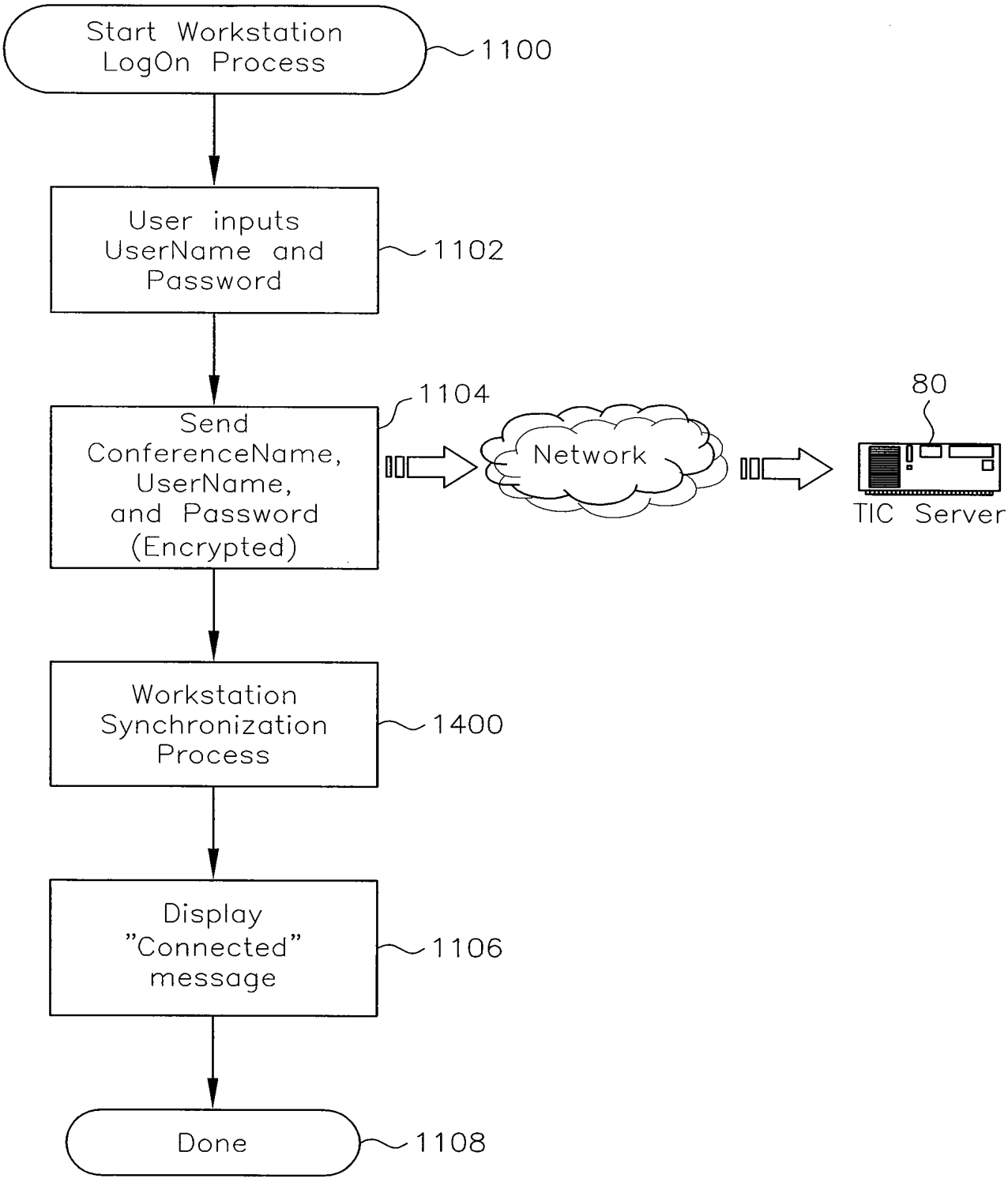


FIG. 12

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM
James H. Watt
RPI-123US

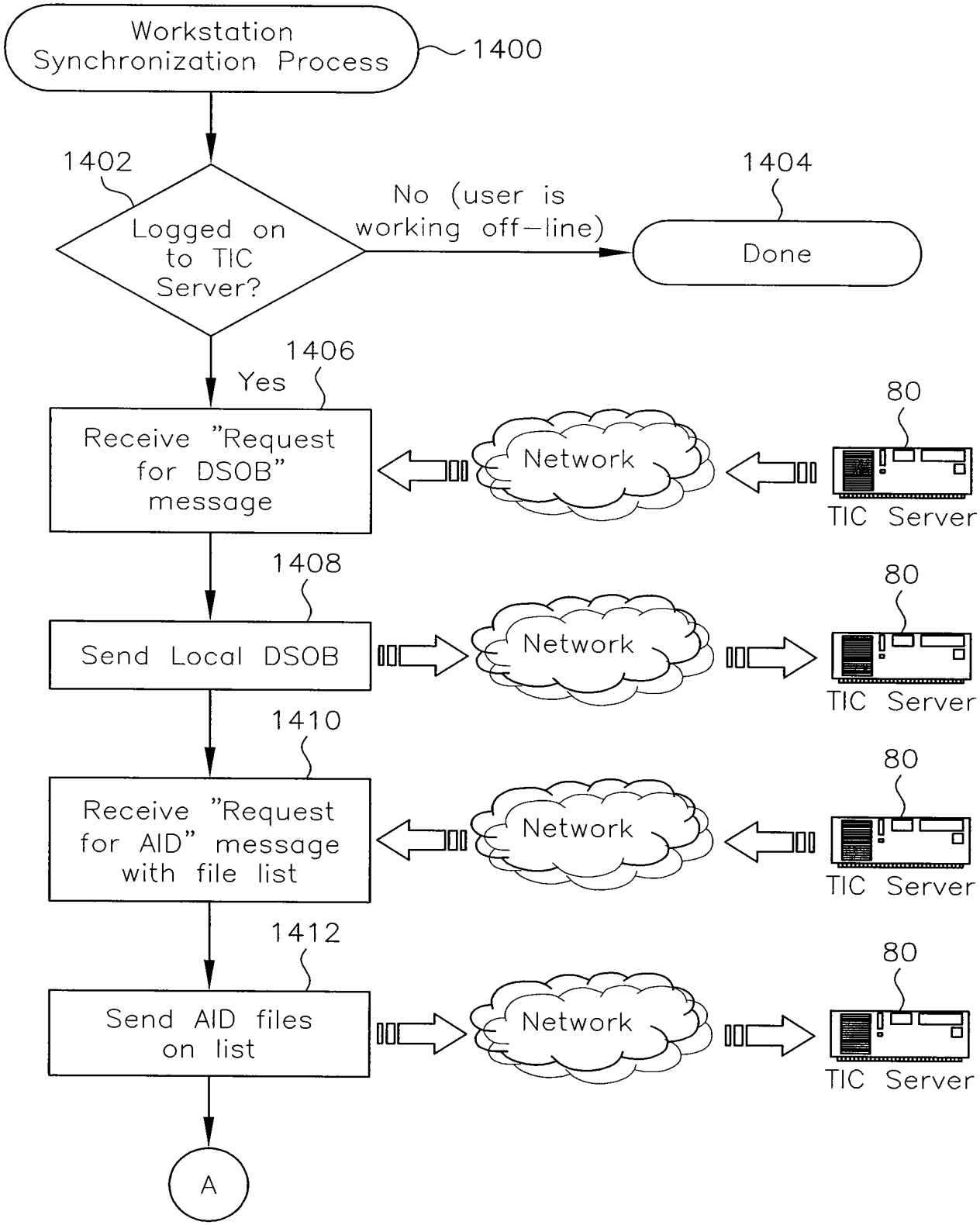


FIG. 13A

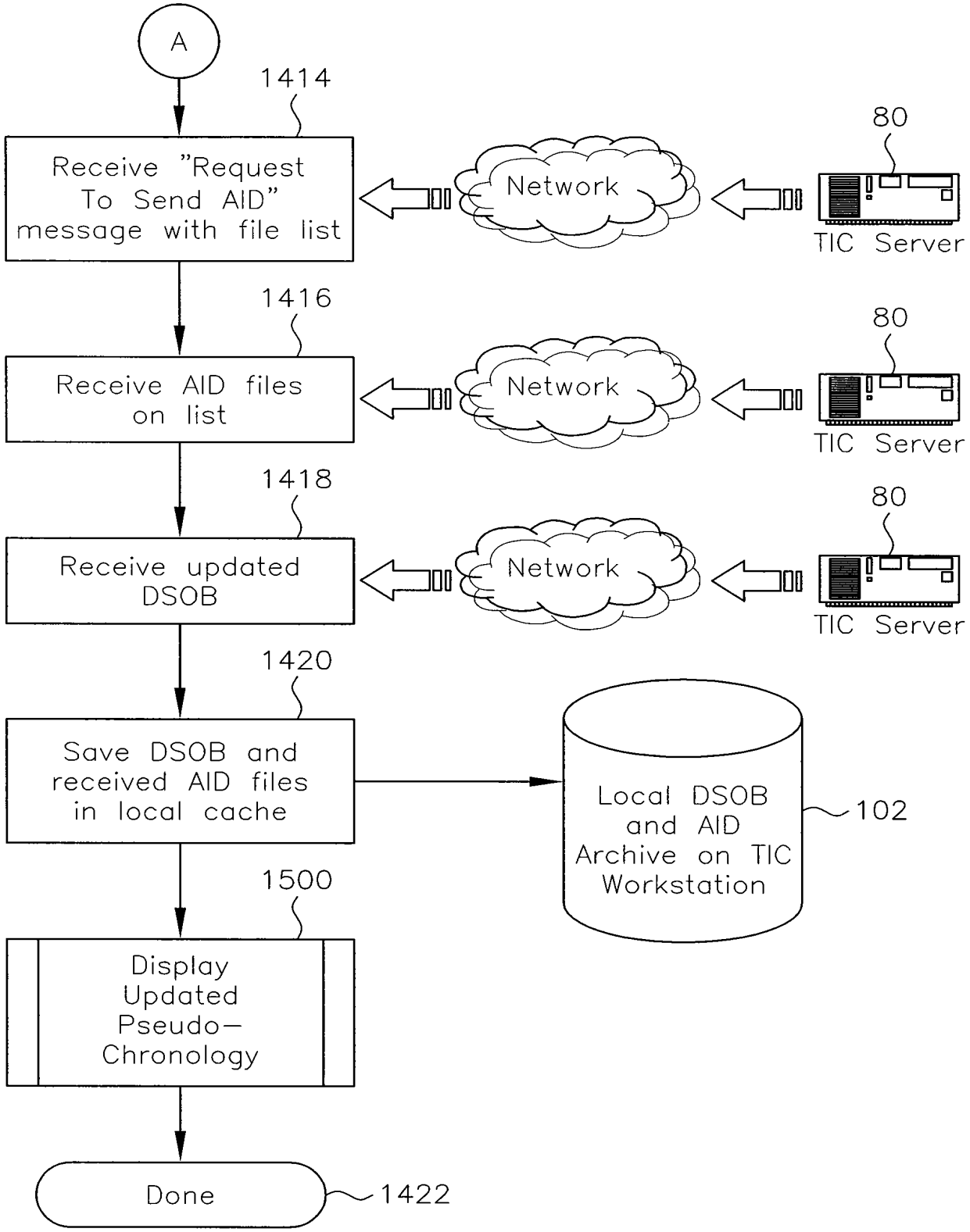

A
1414
Receive "Request To Send AID" message with file list
Network
80
TIC Server
1416
Receive AID files on list
Network
80
TIC Server
1418
Receive updated DSOB
Network
80
TIC Server
1420
Save DSOB and received AID files in local cache
Local DSOB and AID Archive on TIC Workstation
102
1500
Display Updated Pseudo-Chronology
Done
1422

FIG. 13B

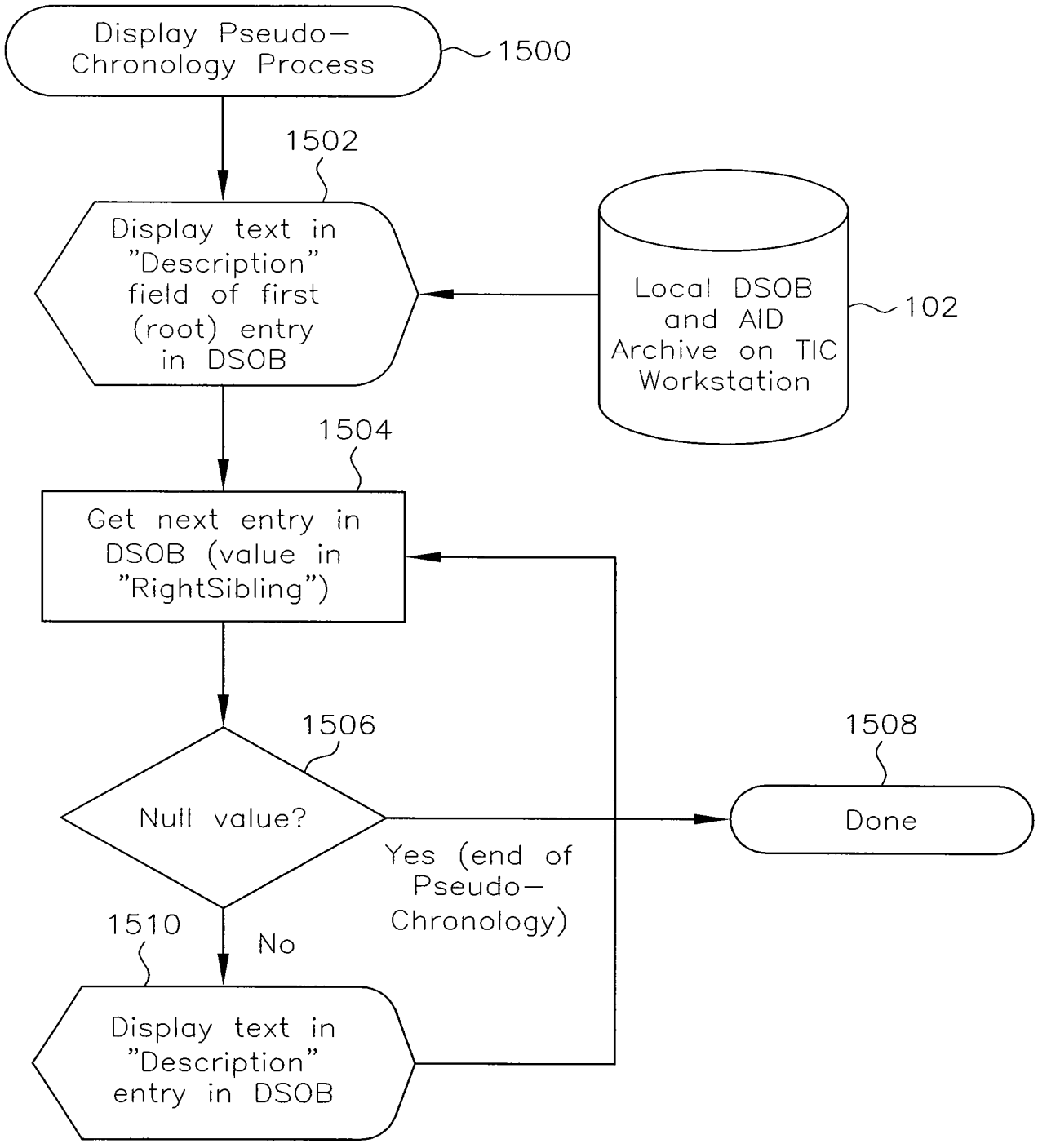

Display Pseudo–Chronology Process
1500
1502
Display text in "Description" field of first (root) entry in DSOB
Local DSOB and AID Archive on TIC Workstation
102
1504
Get next entry in DSOB (value in "RightSibling")
1506
Null value?
1508
Done
Yes (end of Pseudo–Chronology)
1510
No
Display text in "Description" entry in DSOB

FIG. 14

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM
James H. Watt
RPI-123US

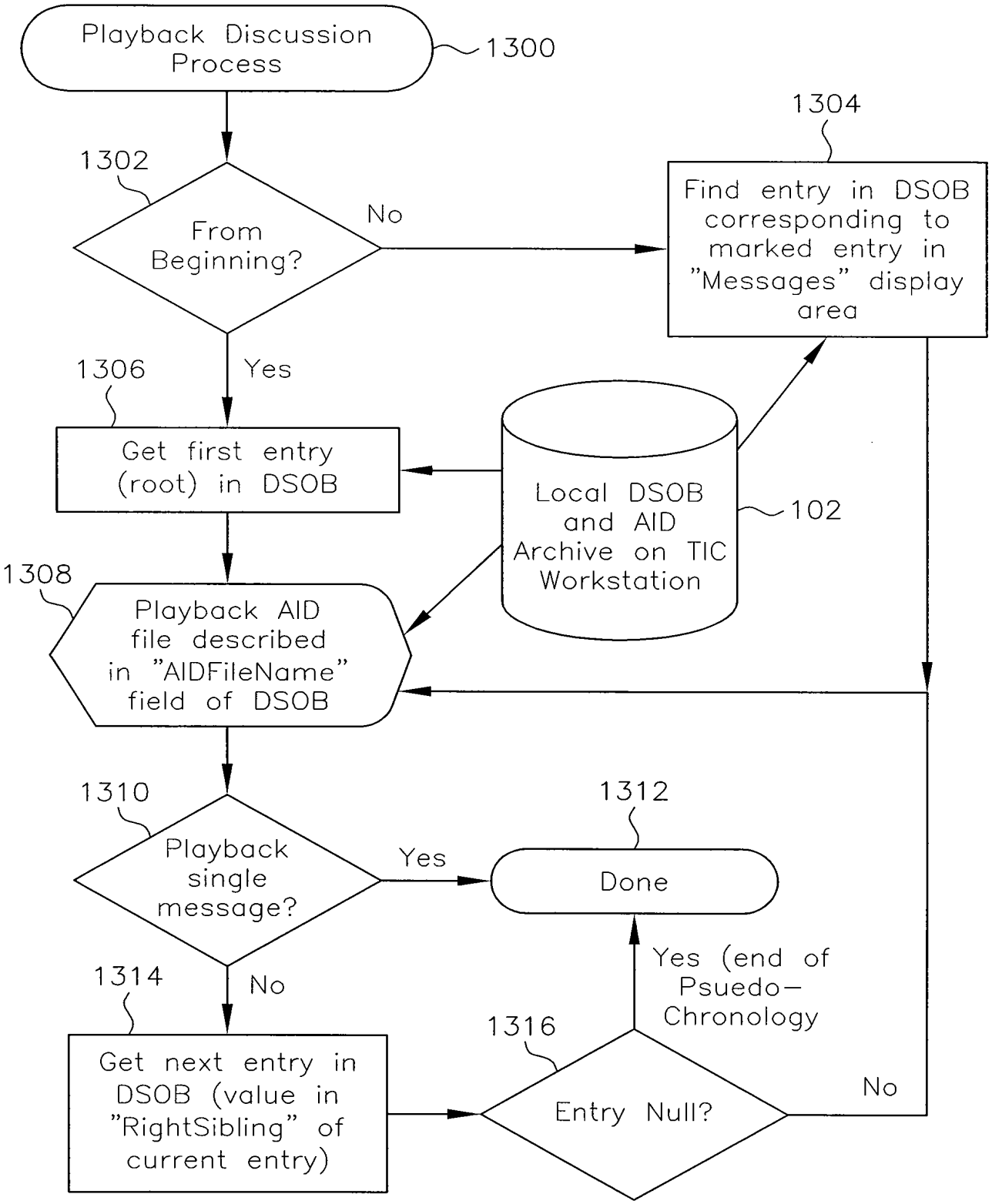


FIG. 15

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM

James H. Watt

RPI-123US

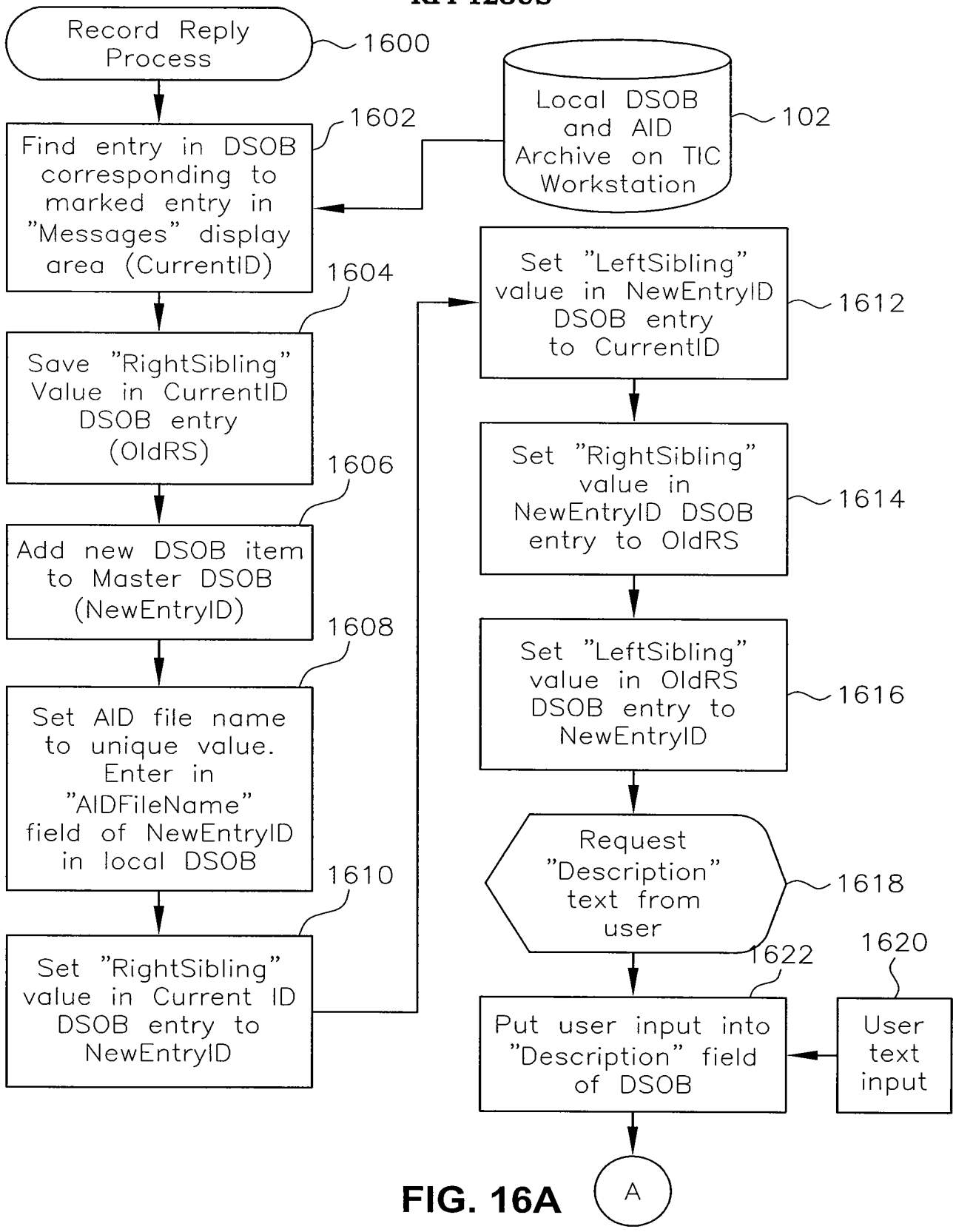


FIG. 16A

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM
James H. Watt
RPI-123US

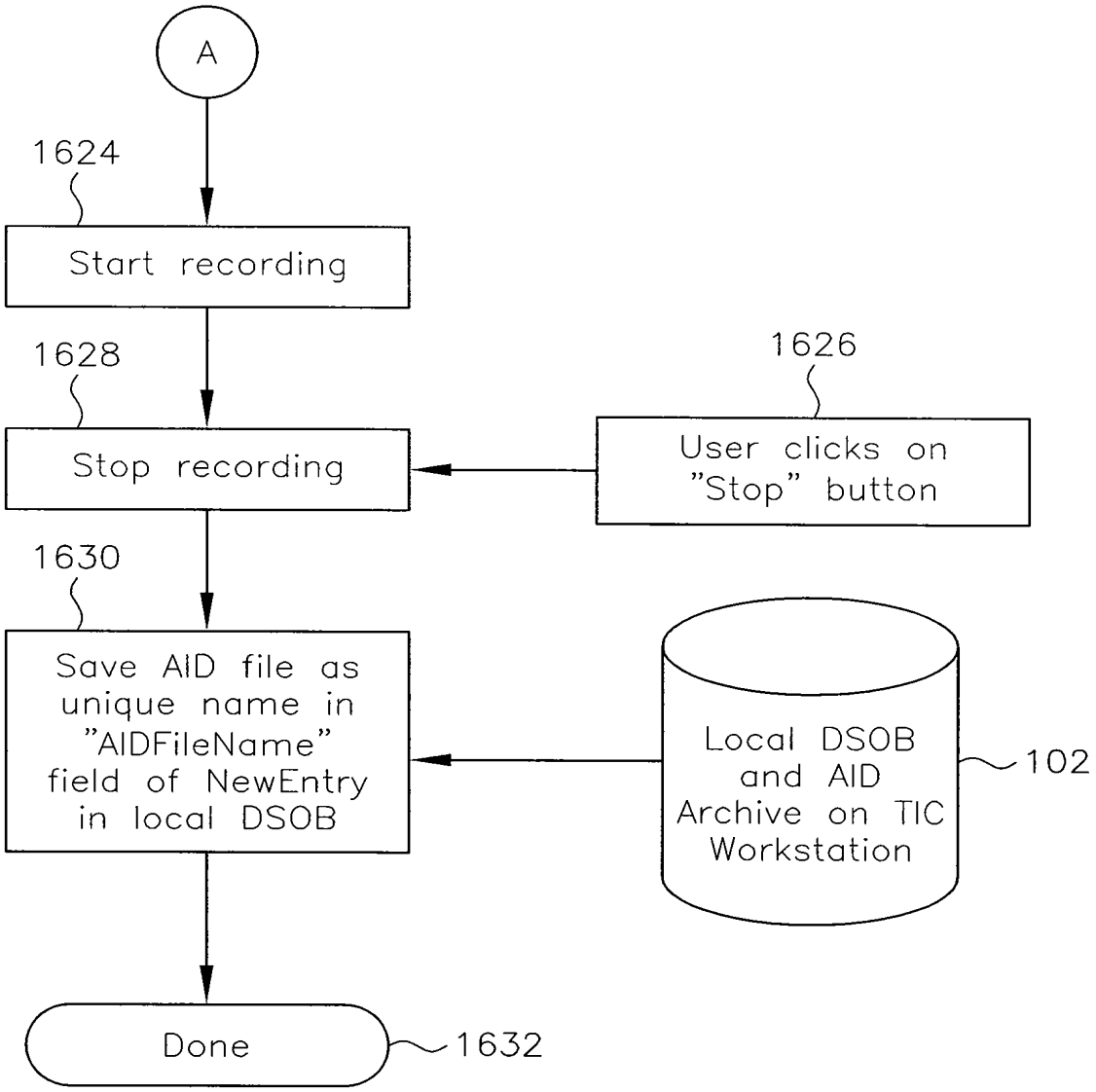


FIG. 16B

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM

James H. Watt

RPI-123US

FIG. 16C

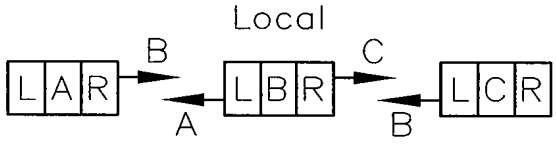


FIG. 16D

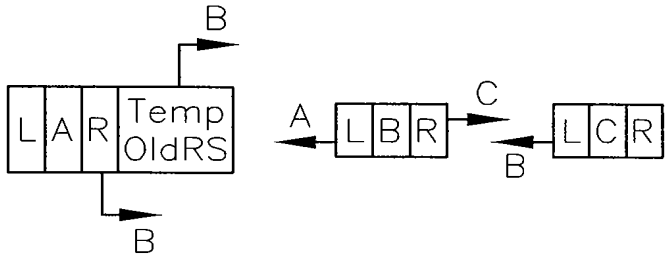


FIG. 16E

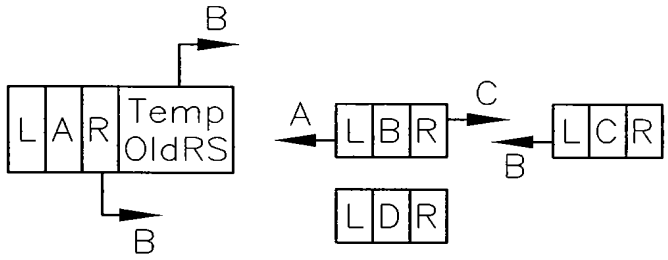


FIG. 16F

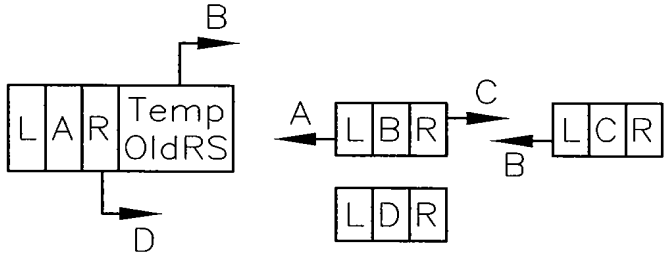


FIG. 16G

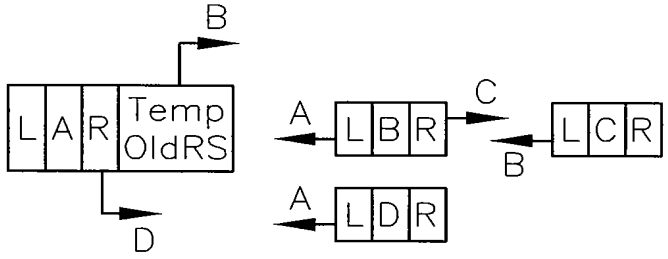


FIG. 16H

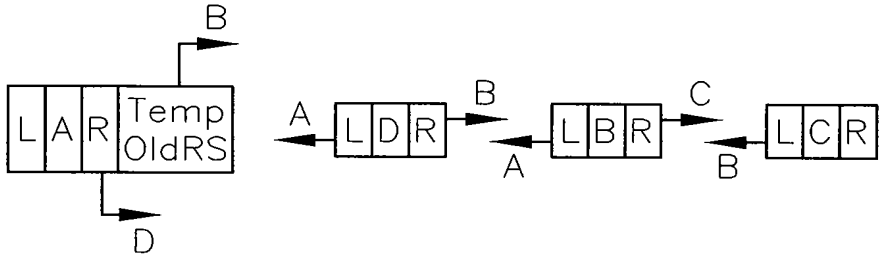
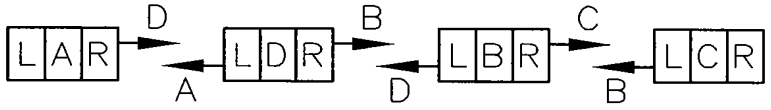


FIG. 16I



ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM
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RPI-123US

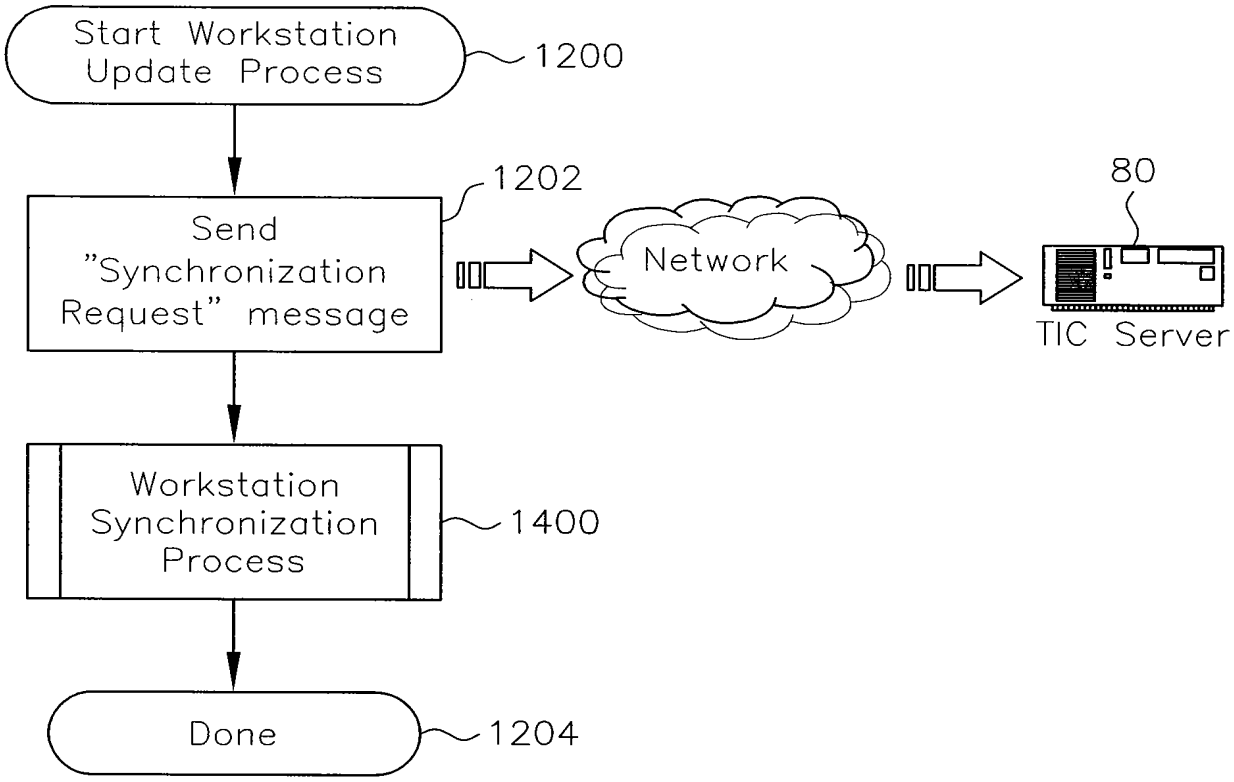

FIG. 17

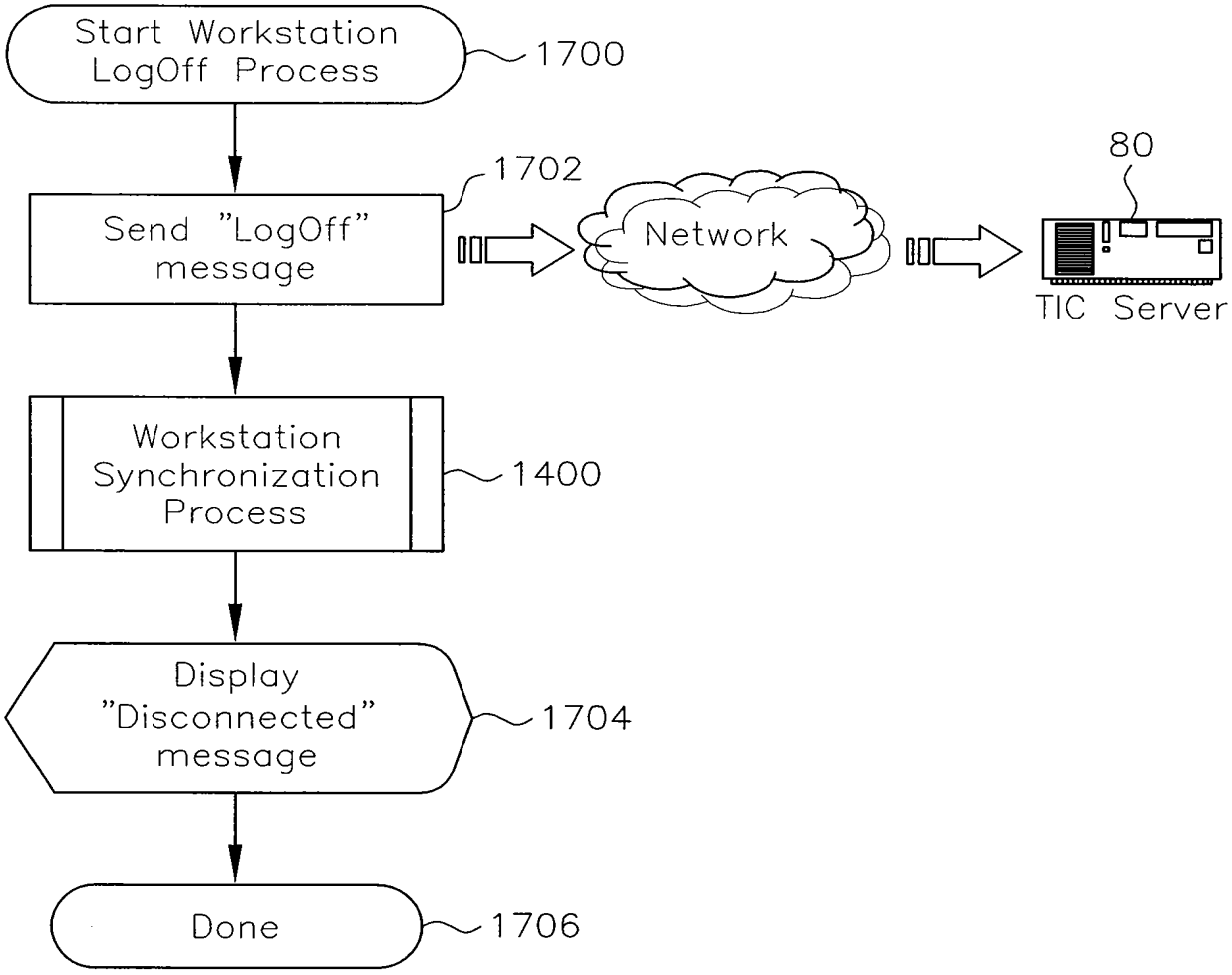
Start Workstation LogOff Process
1700
Send "LogOff" message
1702
Network
80
TIC Server
Workstation Synchronization Process
1400
Display "Disconnected" message
1704
Done
1706

FIG. 18

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM
James H. Watt
RPI-123US

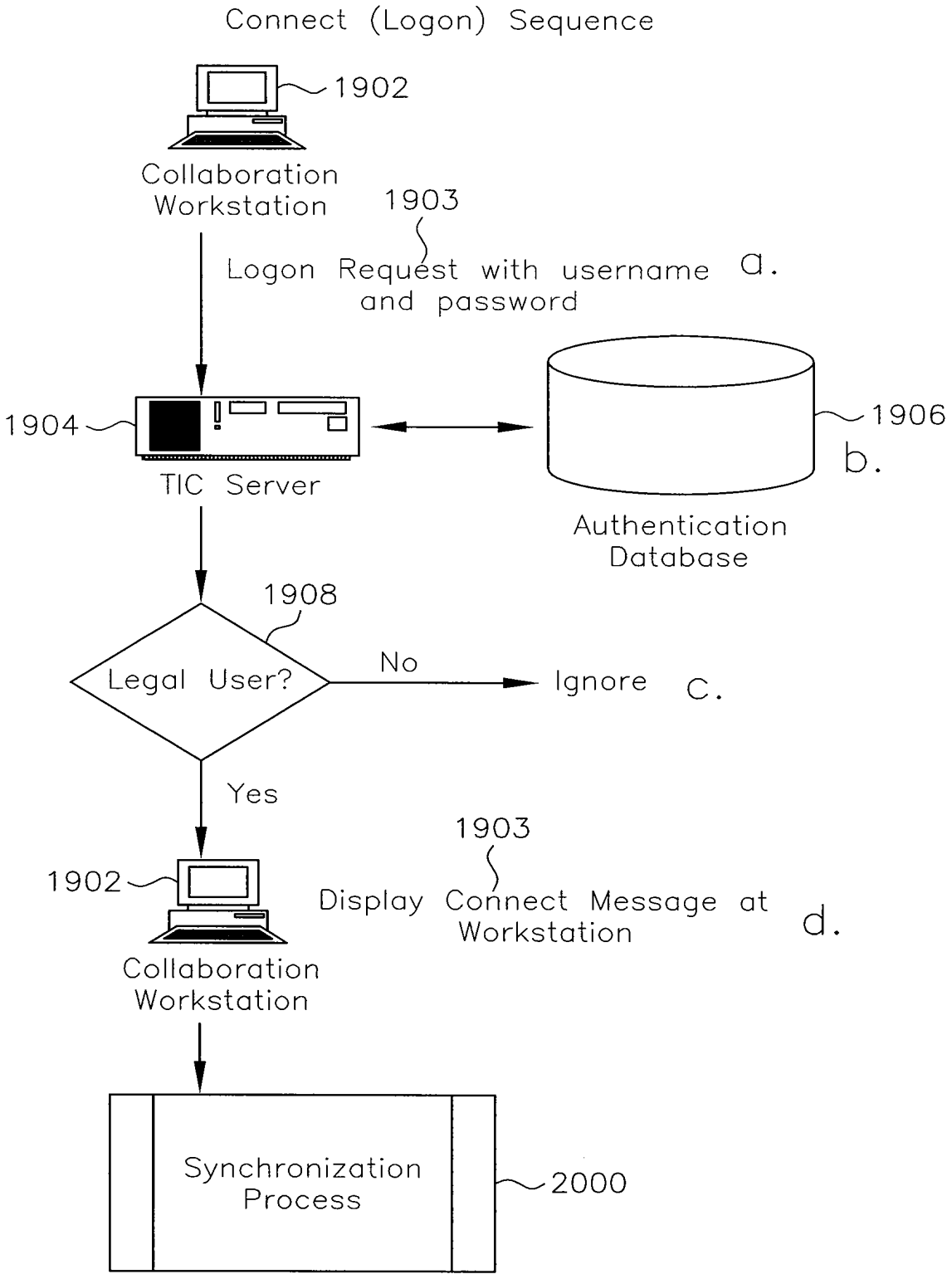

FIG. 19

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM
James H. Watt
RPI-123US

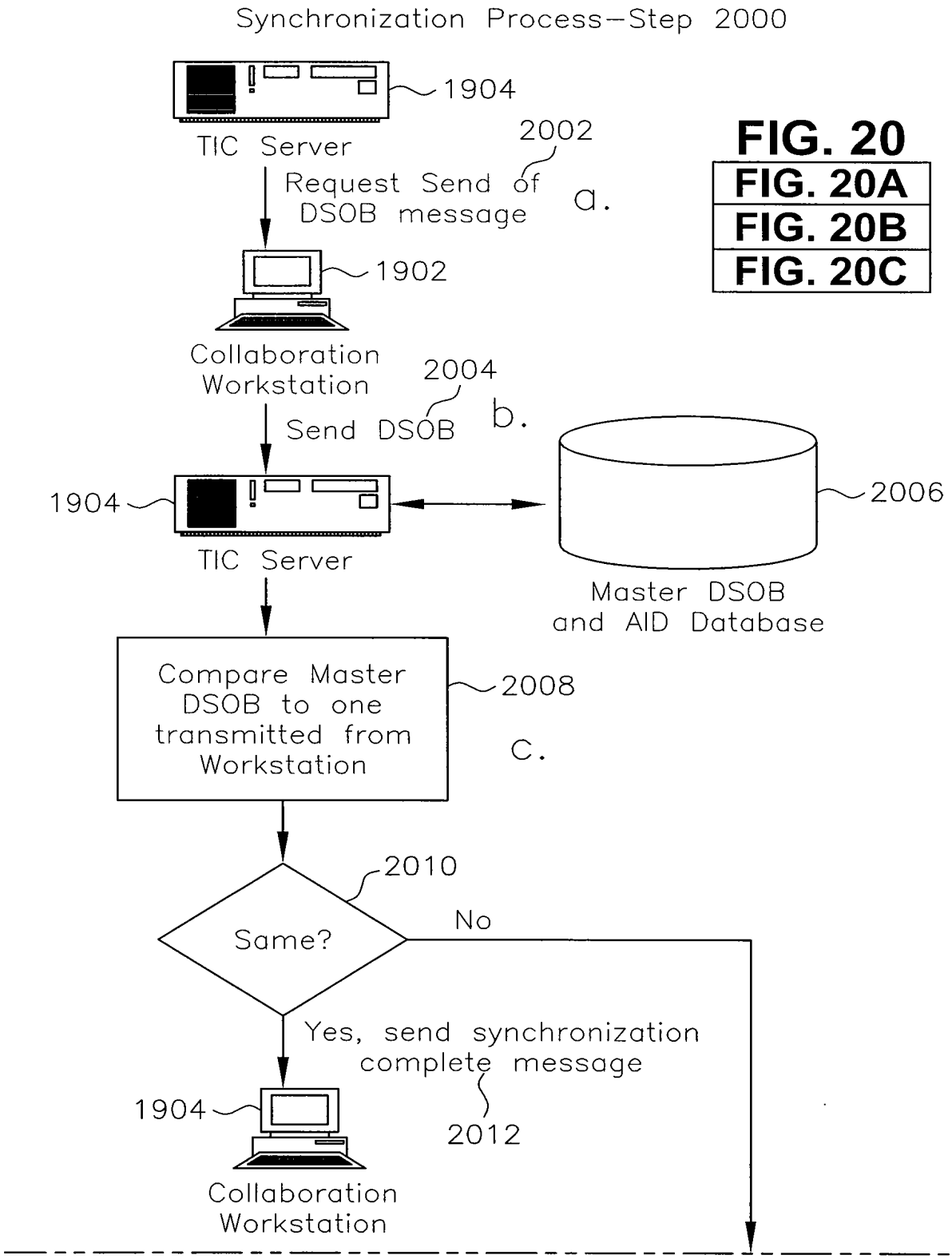

FIG. 20

FIG. 20A
FIG. 20B
FIG. 20C

FIG. 20A

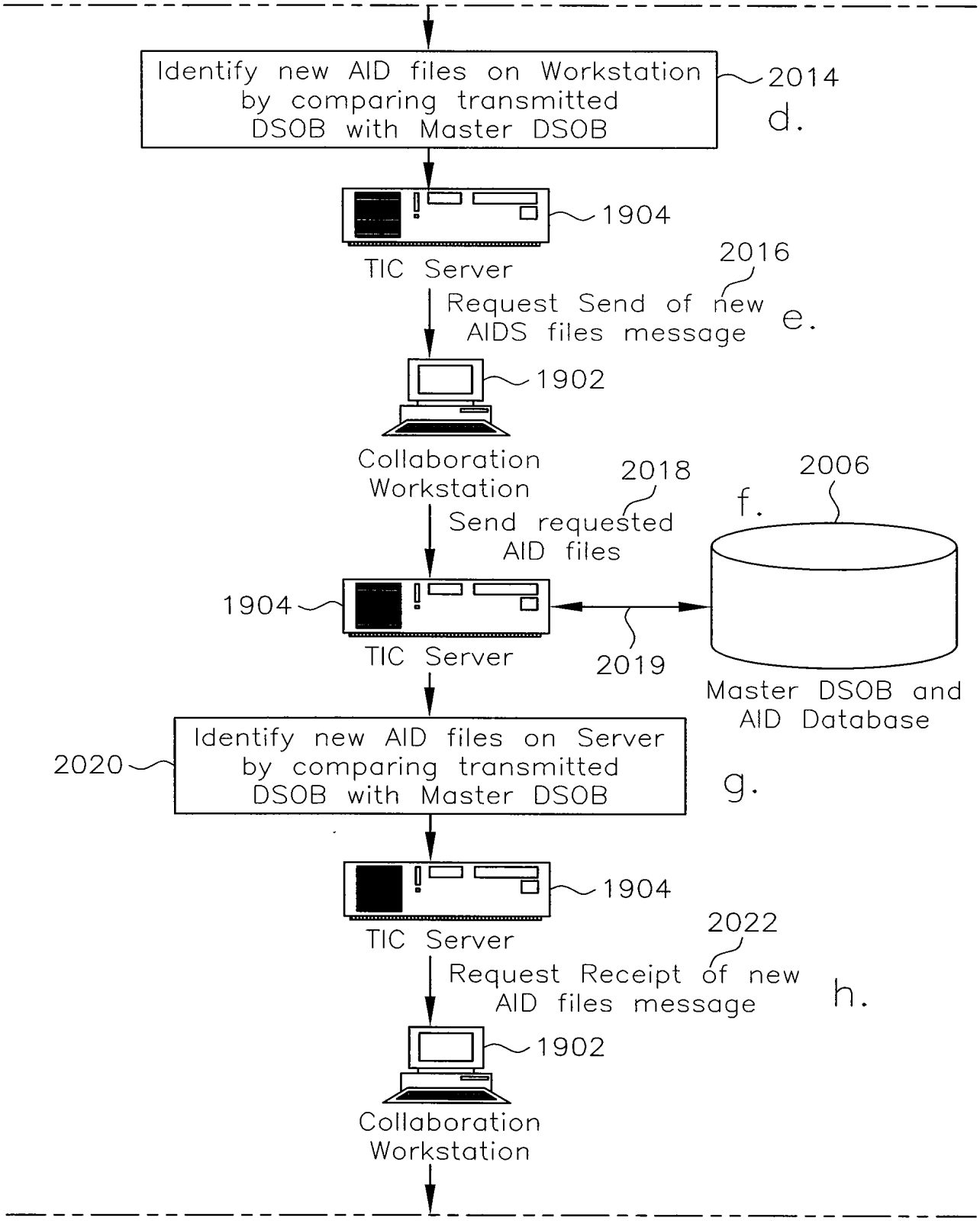
Identify new AID files on Workstation by comparing transmitted DSOB with Master DSOB
2014
d.
1904
TIC Server
2016
Request Send of new AIDS files message
e.
1902
Collaboration Workstation
2018
Send requested AID files
f.
2006
1904
TIC Server
2019
Master DSOB and AID Database
2020
Identify new AID files on Server by comparing transmitted DSOB with Master DSOB
g.
1904
TIC Server
2022
Request Receipt of new AID files message
h.
1902
Collaboration Workstation

FIG. 20B

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM
James H. Watt
RPI-123US

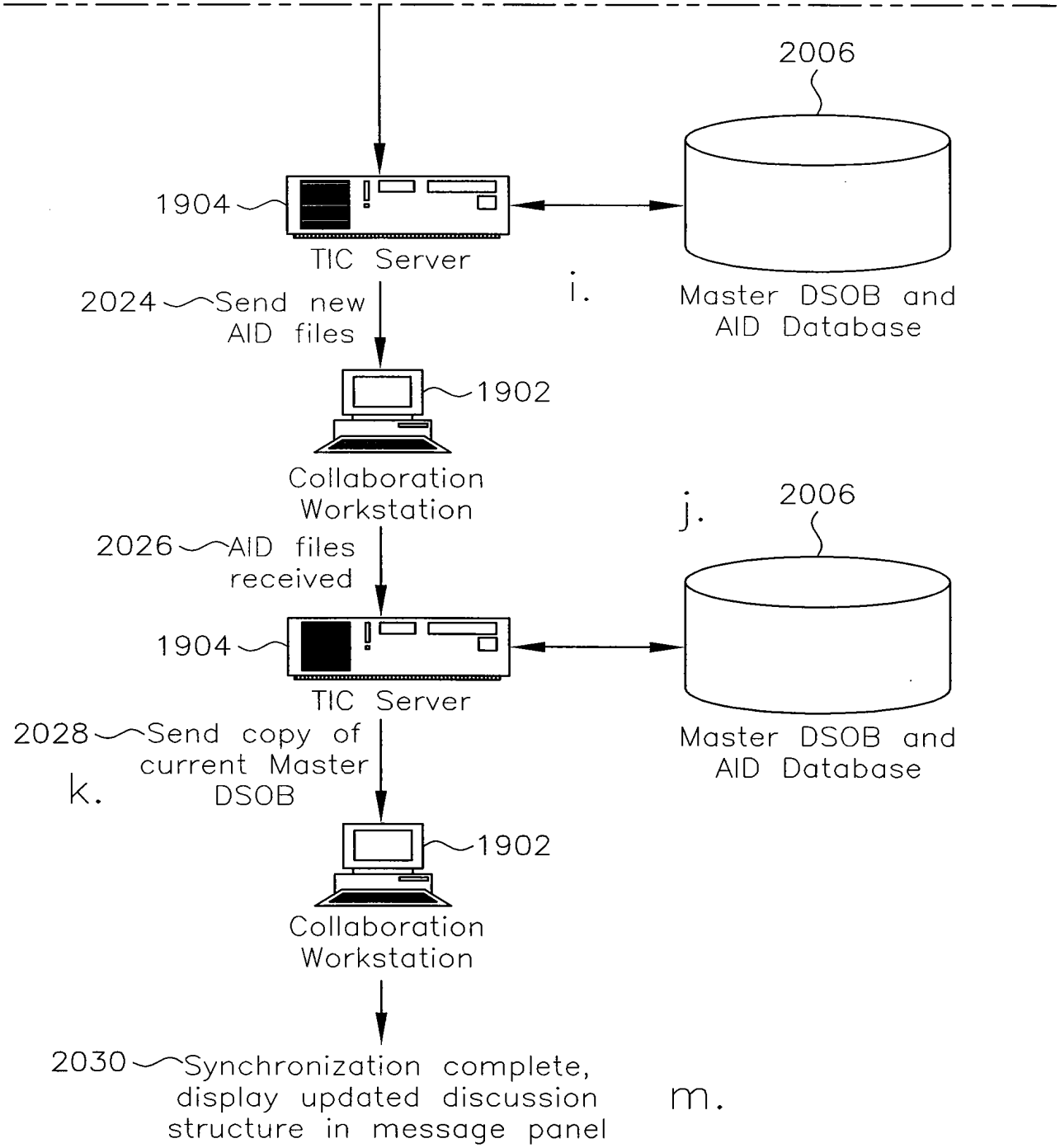

FIG. 20C

DSOB Entries

a. After first posting from Allison

2100

Field	Contents
AIDFileName	PersonA2003-05-01-9-00-00
Description	Hello from Allison
LastPlaybackDate	(different for each workstation)
Authorization	LD
ParentItem	(null)
ChildItem	(null)
LeftSiblingItem	(null)
RightSiblingItem	(null)
Status	Archived

FIG. 21A

b. After second posting from Dave

2110

Field	Contents
AIDFileName	PersonA2003-05-01-9-00-00
Description	Hello from Allison
LastPlaybackDate	(different for each workstation)
Authorization	LD
ParentItem	(null)
Child Item	(null)
LeftSiblingItem	(null)
RightSiblingItem	PersonD2003-05-01-11-10-00
Status	Archived

2120

Field	Contents
AIDFileName	PersonD2003-05-01-11-10-00
Description	Denver Dave says hi, too
LastPlaybackDate	(different for each workstation)
Authorization	LD
ParentItem	(null)
ChildItem	(null)
LeftSiblingItem	PersonA2003-05-01-9-00-00
RightSiblingItem	(null)
Status	Archived

FIG. 21B

c. After third posting from Cynthia

2130

Field	Contents
AIDFileName	PersonA2003-05-01-9-00-00
Description	Hello from Allison
LastPlaybackDate	(different for each workstation)
Authorization	LD
ParentItem	(null)
ChildItem	(null)
LeftSiblingItem	(null)
RightSiblingItem	PersonC2003-05-01-10-00-00
Status	Archived

2140

Field	Contents
AIDFileName	PersonD2003-05-01-11-10-00
Description	Denver Dave says hi, too
LastPlaybackDate	(different for each workstation)
Authorization	LD
ParentItem	(null)
ChildItem	(null)
LeftSiblingItem	PersonC2003-05-01-10-00-00
RightSiblingItem	(null)
Status	Archived

2150

Field	Contents
AIDFileName	PersonC2003-05-01-10-00-00
Description	Are you Allison from Marketing?
LastPlaybackDate	(different for each workstation)
Authorization	LD
ParentItem	(null)
ChildItem	(null)
LeftSiblingItem	PersonA2003-05-01-9-00-00
RightSiblingItem	PersonD2003-05-01-11-10-00
Status	Archived

FIG. 21C

FIG. 21D
FIG. 21D'
FIG. 21D"

d. After fourth posting from Bill (Bill's local DSOB only)

2160

Field	Contents
AIDFileName	PersonA2003-05-01-9-00-00
Description	Hello from Allison
LastPlaybackDate	(different for each workstation)
Authorization	LD
ParentItem	(null)
ChildItem	(null)
LeftSiblingItem	(null)
RightSiblingItem	PersonC2003-05-01-10-00-00
Status	Archived

2170

Field	Contents
AIDFileName	PersonD2003-05-01-11-10-00
Description	Denver Dave says hi, too
LastPlaybackDate	(different for each workstation)
Authorization	LD
ParentItem	(null)
ChildItem	(null)
LeftSiblingItem	PersonB2003-05-02-08-30-00
RightSiblingItem	(null)
Status	Archived

2180

Field	Contents
AIDFileName	PersonC2003-05-01-10-00-00
Description	Are you Allison from Marketing?
LastPlaybackDate	(different for each workstation)
Authorization	LD
Parent Item	(null)
Child Item	(null)
LeftSiblingItem	PersonA2003-05-01-9-00-00
RightSiblingItem	PersonB2003-05-02-08-30-00
Status	Archived

FIG. 21D'

2190

Field	Contents
AIDFileName	PersonB2003-05-02-08-30-00
Description	That Allison was downsized
LastPlaybackDate	(different for each workstation)
Authorization	LD
Parent Item	(null)
Child Item	(null)
LeftSiblingItem	PersonC2003-05-01-10-00-00
RightSiblingItem	PersonD2003-05-01-11-10-00
Status	Archived

FIG. 21D"

FIG. 21E
FIG. 21E'
FIG. 21E"

e. After fifth posting from Allison (Master DSOB)

2200

Field	Contents
AIDFileName	PersonA2003-05-01-9-00-00
Description	Hello from Allison
LastPlaybackDate	(different for each workstation)
Authorization	LD
ParentItem	(null)
ChildItem	(null)
LeftSiblingItem	(null)
RightSiblingItem	PersonC2003-05-01-10-00-00
Status	Archived

2210

Field	Contents
AIDFileName	PersonD2003-05-01-11-10-00
Description	Denver Dave says hi, too
LastPlaybackDate	(different for each workstation)
Authorization	LD
ParentItem	(null)
ChildItem	(null)
LeftSiblingItem	PersonB2003-05-02-08-30-00
RightSiblingItem	PersonA2003-05-01-9-00-00
Status	Archived

2220

Field	Contents
AIDFileName	PersonC2003-05-01-10-00-00
Description	Are you Allison from Marketing?
LastPlaybackDate	(different for each workstation)
Authorization	LD
ParentItem	(null)
ChildItem	(null)
LeftSiblingItem	PersonA2003-05-01-9-00-00
RightSiblingItem	PersonB2003-05-02-08-30-00
Status	Archived

FIG. 21E'

2230

Field	Contents
AIDFileName	PersonB2003-05-02-08-30-00
Description	That Allison was downsized
LastPlaybackDate	(different for each workstation)
Authorization	LD
ParentItem	(null)
ChildItem	(null)
LeftSiblingItem	PersonC2003-05-01-10-00-00
RightSiblingItem	PersonD2003-05-01-11-10-00
Status	Archived

2240

Field	Contents
AIDFileName	PersonA2003-05-02-09-20-00
Description	Let's get started with Zebra
LastPlaybackDate	(different for each workstation)
Authorization	LD
ParentItem	(null)
ChildItem	(null)
LeftSiblingItem	PersonD2003-05-01-11-10-00
RightSiblingItem	(null)
Status	Archived

FIG. 21E"

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM

James H. Watt

RPI-123US

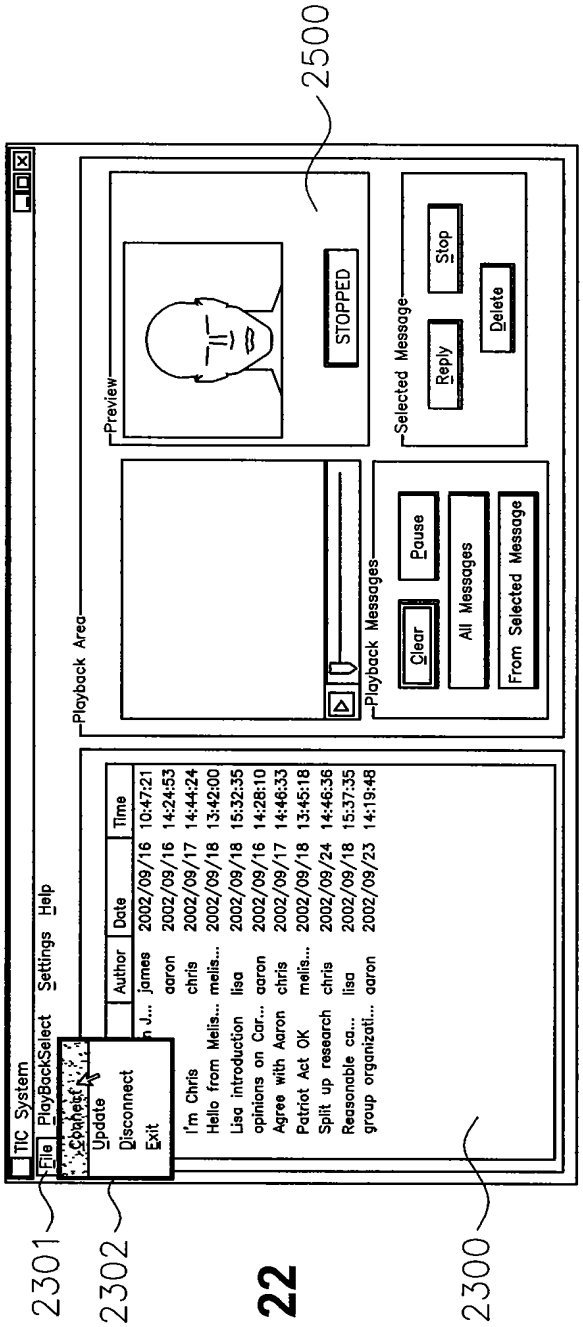

FIG. 22

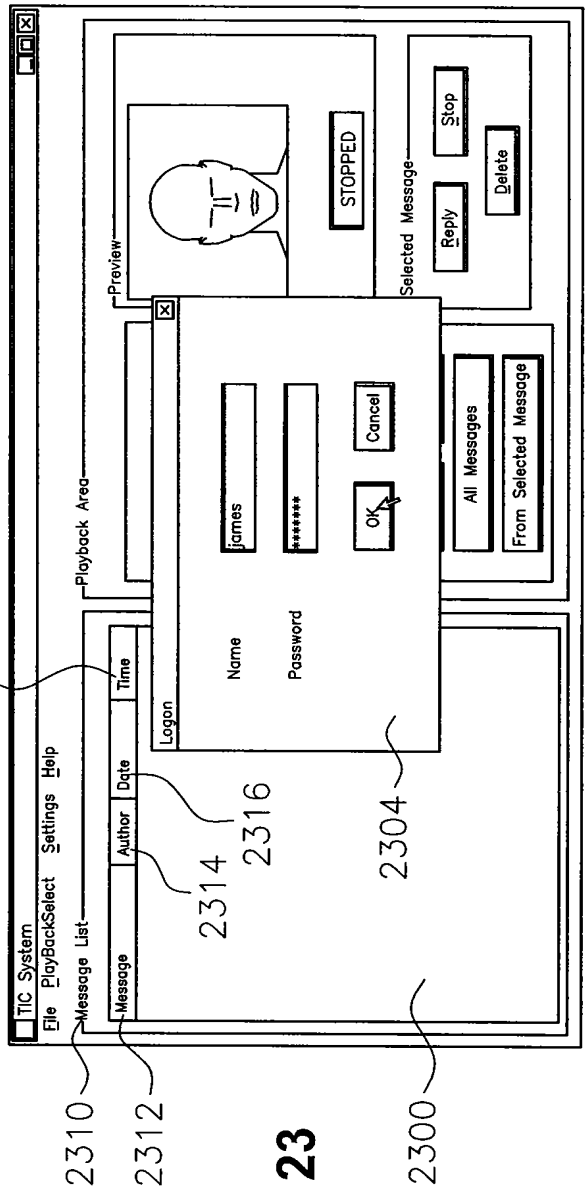

FIG. 23

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM

James H. Watt

RPI-123US

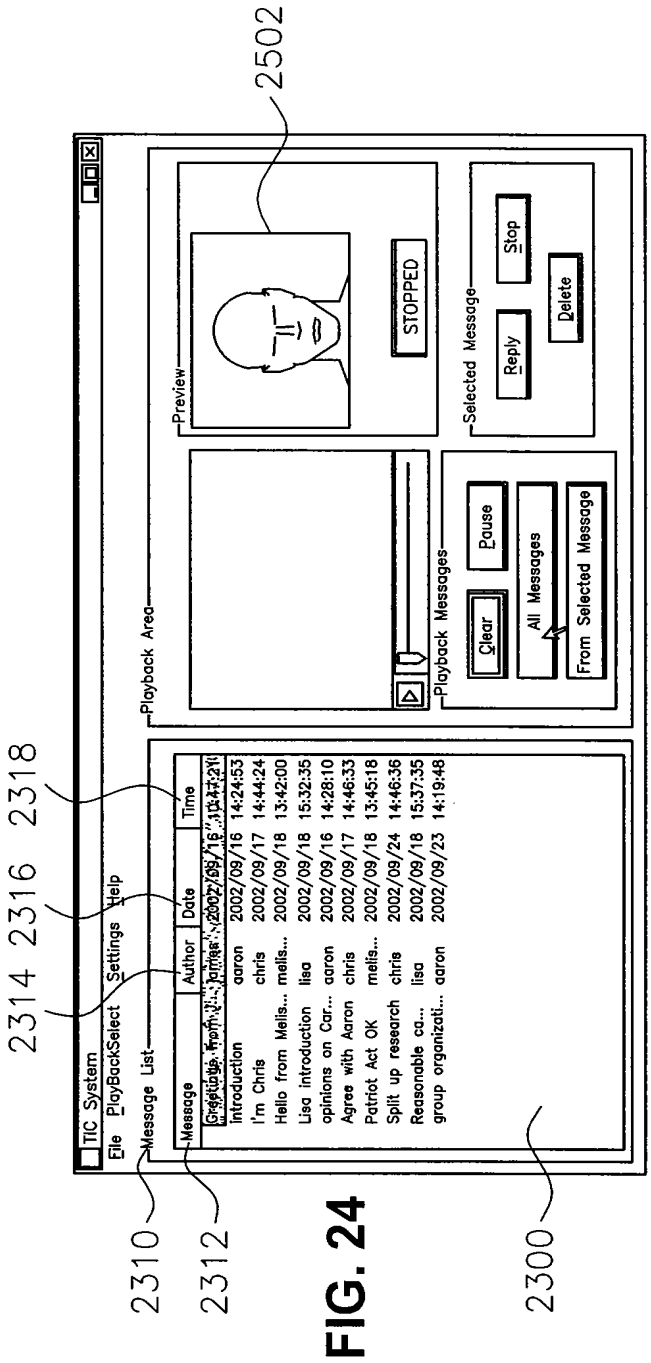

FIG. 24

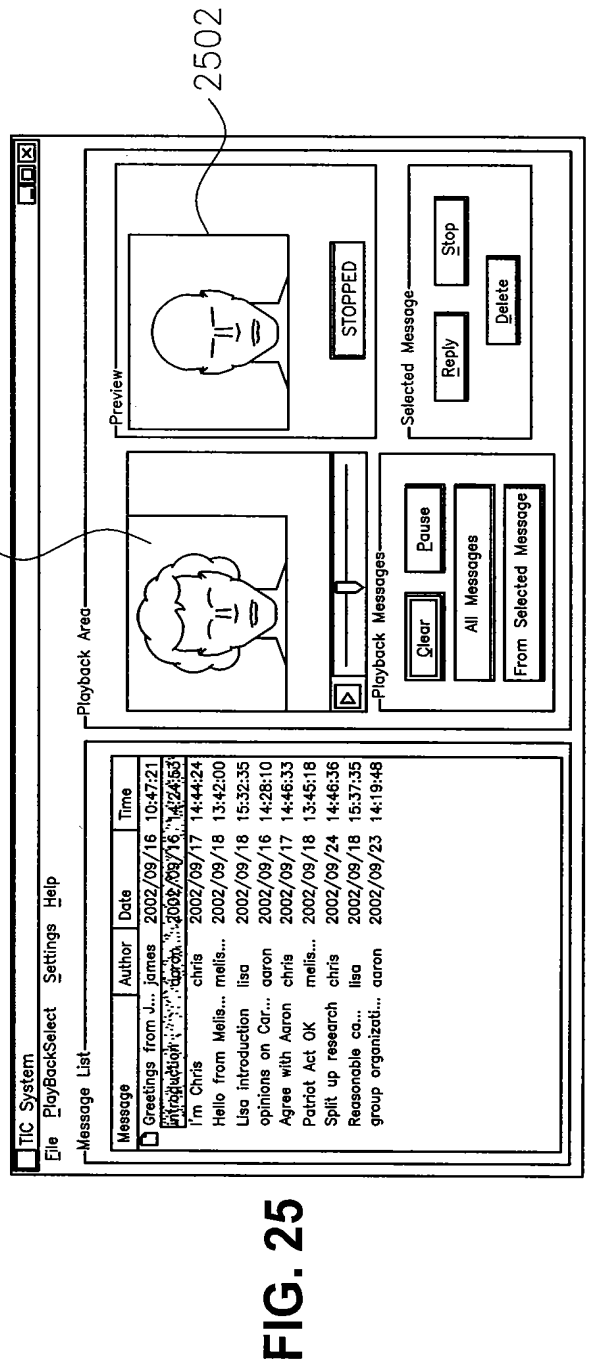

FIG. 25

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM

James H. Watt

RPI-123US

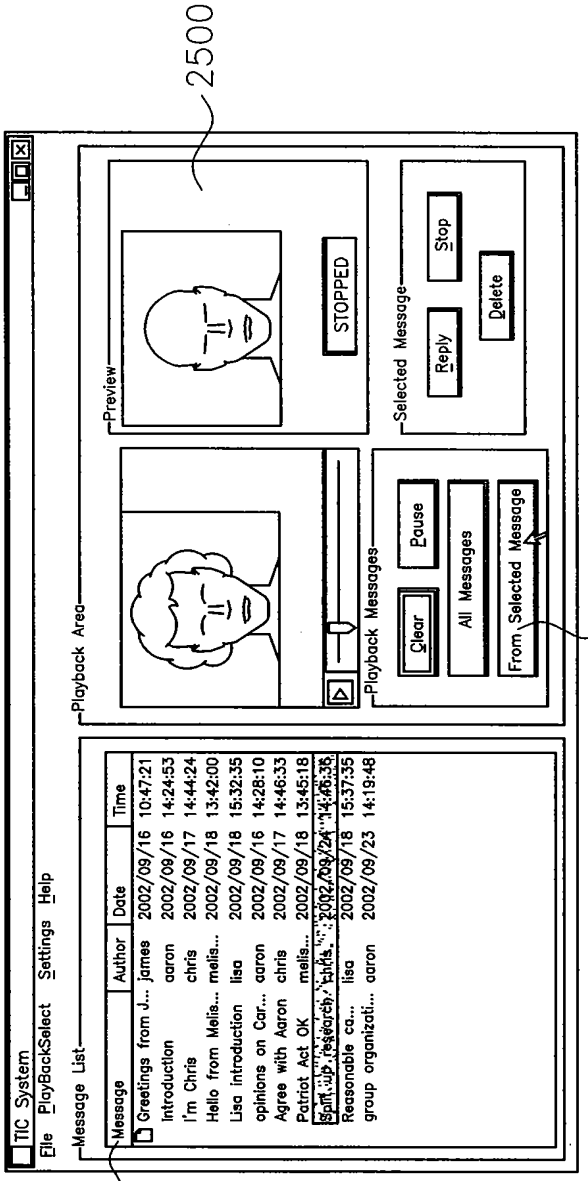

FIG. 26

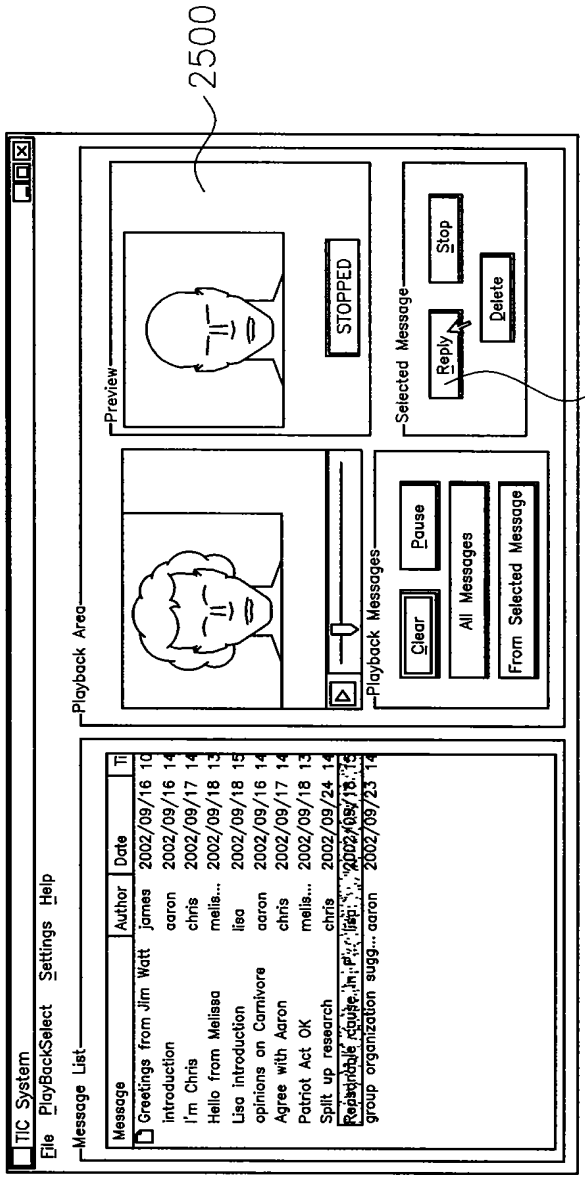

FIG. 27

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM

James H. Watt

RPI-123US

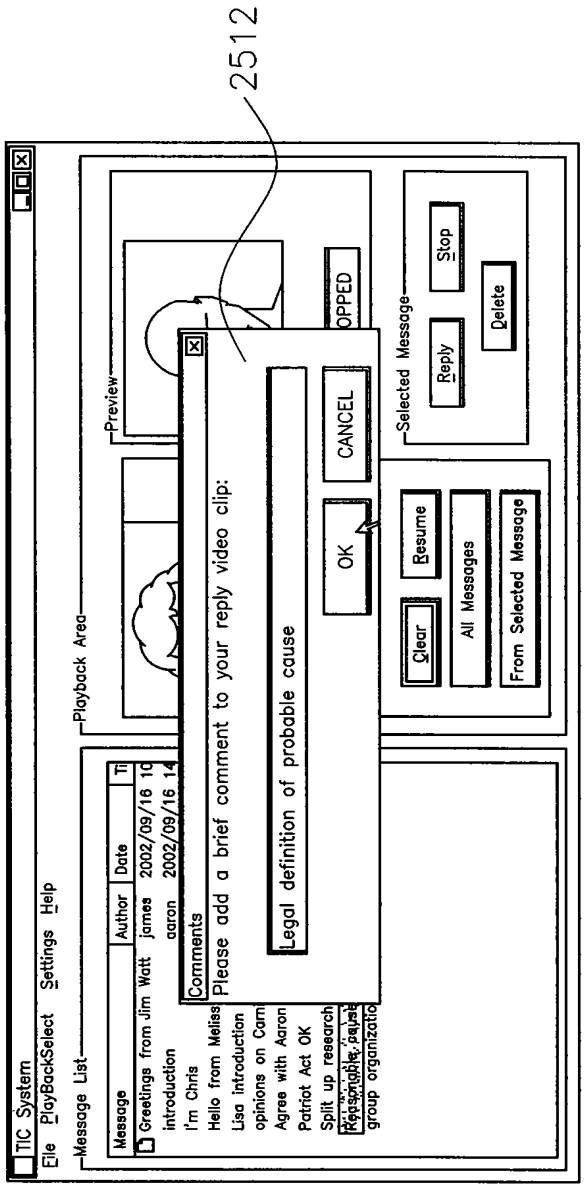

FIG. 28

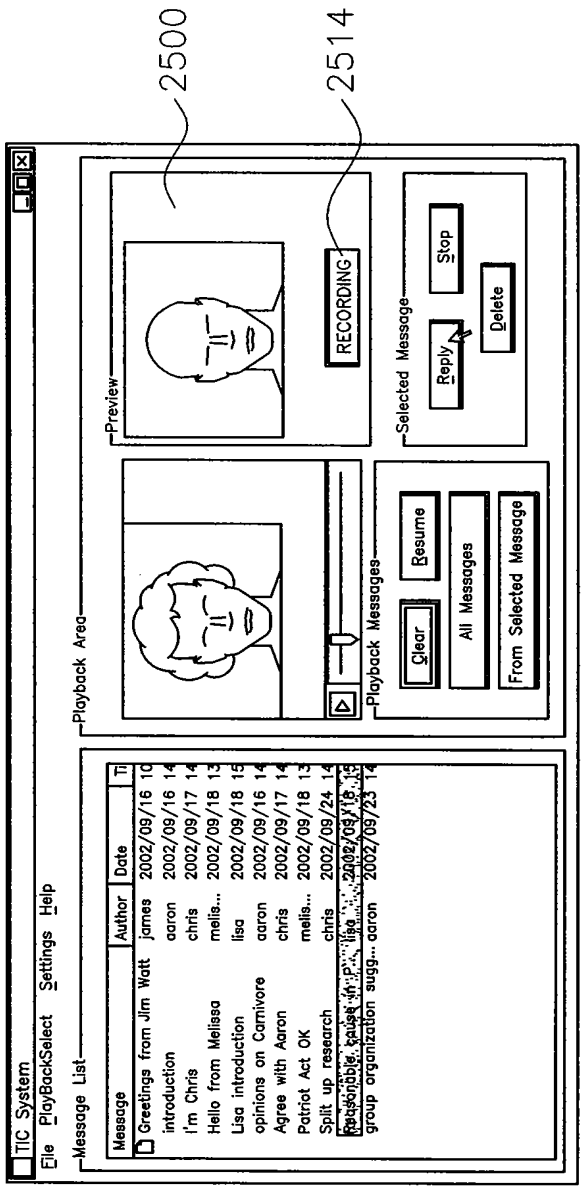

FIG. 29

ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM

James H. Watt

RPI-123US

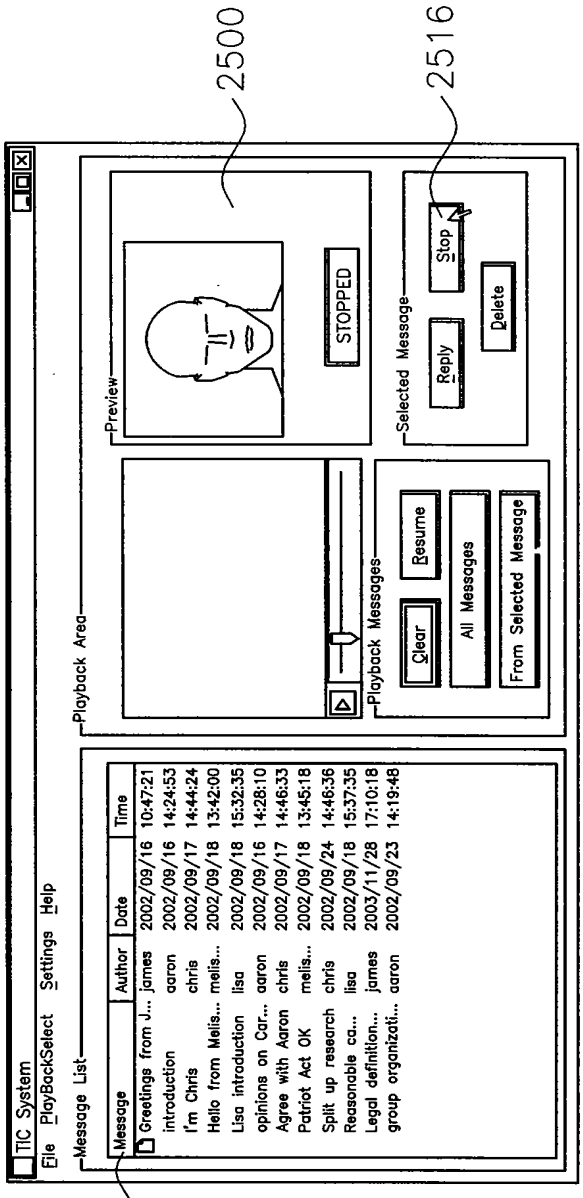

FIG. 30

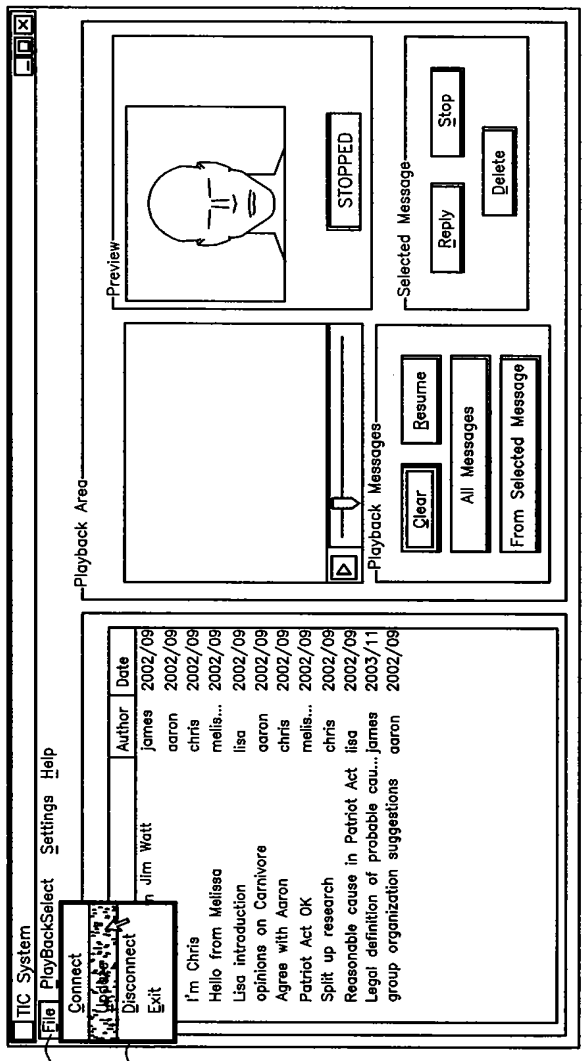

FIG. 31

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ASYNCHRONOUS NETWORK AUDIO/VISUAL COLLABORATION SYSTEM

James H. Watt

RPI-123US

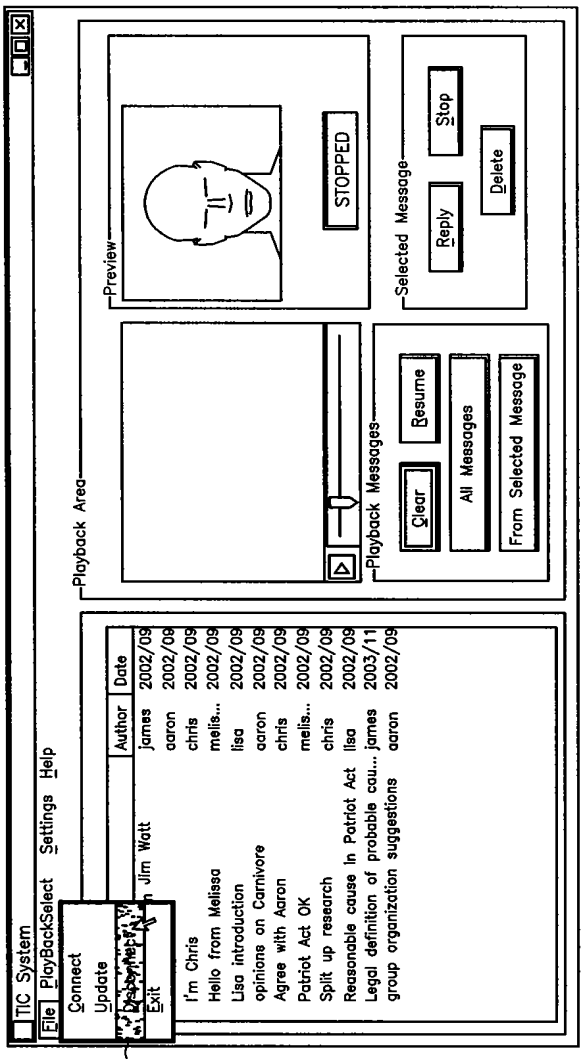

FIG. 32